United States Department of Agriculture

Natural Resources Conservation Service

In cooperation with Purdue University Agricultural Experiment Station

Soil Survey of Jennings County, Indiana

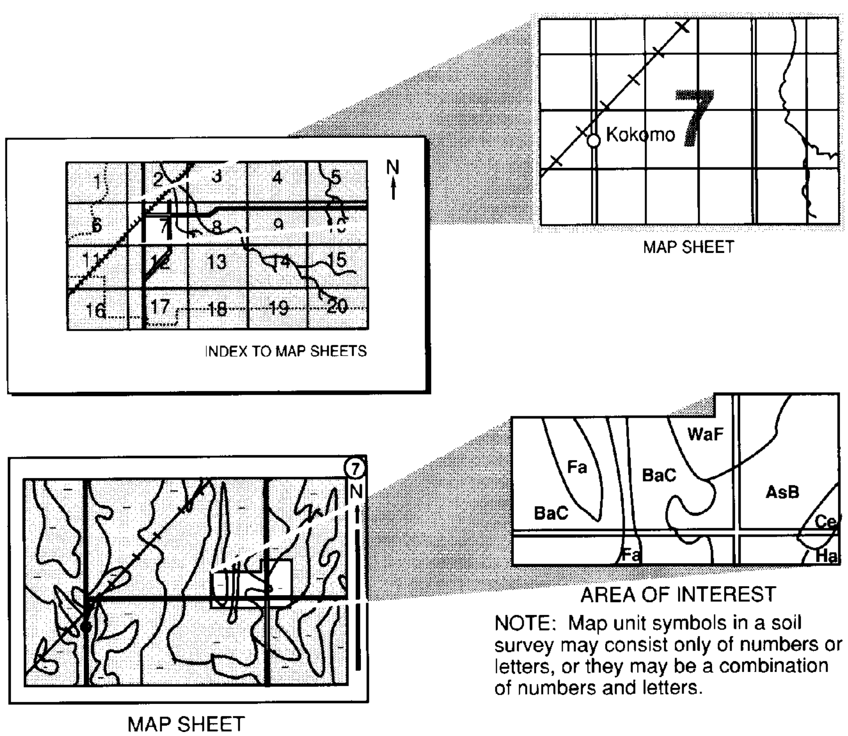
How To Use This Soil Survey

This publication consists of a manuscript and a set of soil maps. The information provided can be useful in planning the use and management of small areas.

To find information about your area of interest, locate that area on the **Index to Map Sheets**. Note the number of the map sheet and turn to that sheet.

Locate your area of interest on the map sheet. Note the map unit symbols that are in that area. Turn to the **Contents**, which lists the map units by symbol and name and shows the page where each map unit is described.

The **Contents** shows which table has data on a specific land use for each detailed soil map unit. Also see the **Contents** for sections of this publication that may address your specific needs.



NOTE: Map unit symbols in a soil survey may consist only of numbers or letters, or they may be a combination of numbers and letters.

National Cooperative Soil Survey

This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey. This survey was made cooperatively by the Natural Resources Conservation Service and the Purdue University Agricultural Experiment Station. It is part of the technical assistance furnished to the Jennings County Soil and Water Conservation District.

Major fieldwork for this survey was completed in 2008. Soil names and descriptions were approved in 2009. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2009. The tables reflect the data in effect as of February 2010. The most current official data are available on the Internet (http://soils.usda.gov).

Soil maps in this survey may be copied without permission. Enlargement of these maps, however, could cause misunderstanding of the detail of mapping. If enlarged, maps do not show the small areas of contrasting soils that could have been shown at a larger scale.

Nondiscrimination Statement

Cover Photo Caption

A farm pond in a pasture on a typical landscape in Jennings County, Indiana.

Additional information about the Nation's natural resources is available online from the Natural Resources Conservation Service at http://www.nrcs.usda.gov.

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Foreword

Soil surveys contain information that affects land use planning in survey areas. They include predictions of soil behavior for selected land uses. The surveys highlight soil limitations, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

Soil surveys are designed for many different users. Farmers, foresters, and agronomists can use the surveys to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the surveys to plan land use, select sites for construction, and identify special practices needed to ensure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the surveys to help them understand, protect, and enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. The information in this report is intended to identify soil properties that are used in making various land use or land treatment decisions. Statements made in this report are intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://soils.usda.gov/sqi/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (http://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS state soil scientist (http://soils.usda.gov/contact/state_offices/).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. The location of each map unit is shown on the detailed soil maps. Each soil in the survey area is described, and information on specific uses is given. Help in using this publication and additional information are available at the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

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Soil Survey of
Jennings County, Indiana

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United States Department of Agriculture, Natural Resources Conservation Service, in cooperation with Purdue University Agricultural Experiment Station

JENNINGS COUNTY is in southeastern Indiana (fig. 1). It has an area of 242,278 acres, or about 380 square miles. The county is within two major land resource areas (MLRAs)—the Southern Illinois and Indiana Thin Loess and Till Plain, Eastern Part (114A), and the Indiana and Ohio Till Plain, Central Part (111A) (USDA/NRCS, 2006). North Vernon is the largest town in the county. Vernon, the county seat, is in the central part of the county. According to census data for the year 2000, the population of the county was 27,554.

The land in the county is primarily used as farmland. The primary farm enterprises are cash grain crops and the production of livestock. Corn, soybeans, and winter wheat are the main cash grain crops. Hogs and beef cattle are the main livestock raised, and there are a few dairy, poultry, truck crop, and sheep and goat operations in the county. About 36 percent of the county is cropland, 6 percent is pasture, and 57 percent is woodland. Purdue University operates the Southeastern Purdue Agricultural Center (SEPAC) near Butlerville, Indiana, where research is conducted on improving cropping, drainage, and tillage systems for southern Indiana soils. Parts of two national wildlife refuges are in Jennings County. These are the Big Oaks National Wildlife Refuge (formerly part of the Jefferson Proving Grounds), in the southeastern part of the county, and the Muscatatuck National Wildlife Refuge, in the western part of the county. The Selmier State Forest and Crosley Fish and Wildlife Area also make up part of the acreage permanently set aside in managed woodlands and wildlife areas. The rest of the county, approximately 1 percent, is used for urban and industrial purposes.

This survey provides information about nonfarm as well as agricultural land uses. The areas around cities and towns have been annexed, and the land use is rapidly changing. Some areas lend themselves to urban development with few limitations, but other areas have so many limitations that nonfarm uses are questionable.

This soil survey updates and refines the soil survey of Jennings County published in 1976 (Nickell, 1976). It provides larger maps, which show the soils in greater detail. It also provides additional information about soil interpretations.

Figure 1.—Location of Jennings County in Indiana.

General Nature of the Survey Area

This section provides general information about the physical and cultural features of the county. It describes history and development; physiography, relief, and drainage; bedrock geology and geomorphology; and climate.

History and Development

The earliest evidence of human occupation in Jennings County is several Paleo-Indian projectile points, which date from 8000 to 9000 B.C., recovered from the Muscatatuck River Valley. The historic Native Americans planted corn on the rich bottom land and hunted wild game, which was abundant in the rolling, wooded uplands. These early inhabitants left the area in the early 1800s because of the encroachment of white settlers.

The oldest records in Jennings County indicate that Paris, Graham, Coffee Creek, and Vernon were the first settlements. These settlements were all near streams that supplied water, transportation, and food in the form of fish and game. The soils at these sites were mainly well drained, and they provided good sites for homes (fig. 2), churches, schools, and cemeteries.

This area was first called the “Territory of Indiana.” Congress officially recognized the territory by special act as early as 1809, but within 7 years Indiana was officially recognized as a State. Jennings County was named after the first governor. In 1817,

Figure 2.—This restored log cabin is typical of dwellings in the early settlements in Jennings County.

the town of Vernon became the county seat because it was in the center of the county, near the river, and because it was the largest settlement in the new county.

Physiography, Relief, and Drainage

The soils in Jennings County formed in parent materials within the Muscatatuck Plateau physiographic division of the Central Lowland, till plains region (Gray, 2001). Parent materials include glacial till of Illinoian and Wisconsinan age; lacustrine deposits; bedrock residuum derived from limestone and black shale; alluvium; and loess. Till from the Illinoian glacier covers the entire area of Jennings County. Till of Wisconsinan age overrode the previously deposited Illinoian material in the extreme northwestern part of Jennings County. Sand Creek is the boundary marker between the two till sheets. As the ice receded, a thin mantle of till was left over the bedrock. Recent erosion has dissected these plains and left them several feet above the current streambed.

Most of the black shale is buried beneath till and other parent materials. Only a few areas have soils that formed in the black shale. The sedimentary rocks consist of layers of limestone and shale, all of which range from a few feet to several hundred feet in thickness. These formations have a downward tilt to the west of about 20 to 30 feet per mile. Soils that formed in glacial till and limestone are typically redder. Sinkholes are common in these areas. If there is a high density of sinkholes, the area is said to have karst topography. These sinkholes typically reemerge through the glacial till that was deposited upon them during the glacial periods.

Nearly level flood plains are along the streams of all the physiographic regions. The majority of the river systems are deeply entrenched throughout the county. As a result, there are less frequent flooding events in the headwaters of most of the drainage systems.

The highest elevation in the county is about 896 feet above sea level. It occurs in an area in Columbia Township about 5.5 miles northeast of Zenas. The lowest elevation is about 527 feet above sea level in an area along the Muscatatuck River where it leaves Jennings County.

The entire county watershed drains into the East Fork of the White River and its tributaries. The main streams that drain into the East Fork of the White River are Sand Creek, Wyloosing Creek, Graham Creek, the Vernon Fork of the Muscatatuck River, and the Muscatatuck River.

Bedrock Geology and Geomorphology

Dr. Stanley M. Totten, professor (ret.) of geology, Hanover College, prepared this section.

Bedrock in Jennings County is of Silurian and Devonian age. The rock units dip westward away from the Cincinnati Arch at about 20 feet per mile. Consequently, the oldest rocks (Silurian) occur in the eastern part of the county and the youngest rocks (Devonian) occur in the western part.

The oldest rock exposed is the Laurel Limestone of Silurian age. The Laurel is a gray to tan, thin-bedded cherty dolomitic limestone that occurs along the eastern margin of the county. It becomes more dolomitic toward the south and is classified as a dolostone in Jefferson County. The Laurel is 50 feet thick in the South Fork valley of the Muscatatuck River, 8 miles east of North Vernon.

Overlying the Laurel is the Waldron Shale of Silurian age. The Waldron, which is missing east of North Vernon, is soft blue-gray shale about 5 feet thick at Vernon. Occurring above the Waldron is the Louisville Limestone of Silurian age. The Louisville is a hard, gray, dolomitic limestone about 7 feet thick near Vernon. The Louisville also is missing east of North Vernon.

The Geneva Dolostone of Devonian age overlies the Louisville Formation at Vernon, and it overlies the Laurel Limestone east of North Vernon. The Geneva is dark brown, massive, and granular and contains calcite masses. The Geneva is 30 feet thick east of North Vernon and is 15 feet thick at Vernon.

Overlying the Geneva Dolostone is the Jeffersonville Limestone, which reaches a maximum thickness of 38 feet in the Vernon area. The Jeffersonville is a brown and gray cherty limestone and is world famous for the coral reef fauna near its base. The coralline limestone is a distinctive marker bed wherever it occurs. It is the uppermost rock unit in portions of the Jefferson Proving Grounds, so it is probable that it occurs farther east than shown on geologic maps.

The North Vernon Limestone overlies the Jeffersonville Limestone. The North Vernon is a bluish gray fossiliferous limestone noted for its silicified marine shells. It is a thin unit, only about 4 feet thick in the Vernon area.

The youngest rock unit in the county is the New Albany Shale of Devonian age. The New Albany is mostly black shale but has some green layers. Regionally the New Albany has been divided into five members based on subtle lithologic differences. The New Albany shale is the uppermost rock unit in the western half of the county.

Carbonate rocks are the uppermost rock units in the eastern part of the county, and they also occur in the valley bottoms in the western part of the county. All carbonate rocks in the county are soluble to some degree, and solution features may be expected wherever carbonate rocks occur. The North Vernon, Jeffersonville, and Louisville limestones are the most soluble. The Geneva and Laurel are less soluble. Karst features, such as sinkholes and caves, occur locally along valley sides throughout the county and on uplands in the eastern part of the county. In general the karst may be considered as paleokarst because it is believed that most karst features predated the Wisconsinan and Illinoian ice advances. Consequently, the karst was at least partially covered with glacial deposits that obscure much of the karst development.

Jennings County is in the middle of the Muscatatuck Regional Slope, a physiographic unit that has a westward slope. Consequently, the major streams flow from east-northeast toward the west-southwest. Major streams draining the county, from north to south, are Sand Creek, the Vernon Fork of the Muscatatuck River, and Graham Creek. The pronounced southwest trend of many streams and the frequent right-angle bends in stream courses (with a secondary southeast-northwest trend) suggest joint control of drainage. Nearly all major stream courses and many of the minor streams have their valley bottoms entrenched into jointed limestone. Stream trenching does not extend more than 175 feet below the Muscatatuck Slope anywhere in southeastern Indiana, and the local relief is much less than 175 feet. Steep valley walls and narrow flood plains are common in Jennings County and create local canyonlike effects. Nearly vertical limestone cliffs as much as 80 feet high occur along some stream valleys.

Karst features, such as sinkholes and caves, occur locally in the carbonate bedrock units in the eastern part of the county and along the entrenched valleys in the western part of the county. At least some of the karst features predated the Illinoian glacial advance and are buried or partially buried. Because it is partially hidden, the paleokarst surface, which is widespread in southeastern Indiana, is difficult to study and thus is poorly understood.

A wide variety of unconsolidated deposits occur in Jennings County. The county has been glaciated by continental ice sheets at least three times (probably more), most recently during the Wisconsinan glacial stage about 20,000 years ago.

The oldest unconsolidated material in the county is pre-Illinoian till that overlies bedrock or in places a paleosol developed on bedrock. This old till generally has incorporated much local material, including a highly weathered paleosol. This till tends to be red and cherty in carbonate terrain.

Illinoian till was deposited as a generally thin ground moraine layer over the entire county about 150,000 years ago. This till is well preserved in the uplands but has been eroded from the valley sides. The till has been leached and oxidized to a depth of 8 to more than 10 feet.

High-level Illinoian outwash occurs as terrace remnants in several stream valleys. Outwash deposits consist of silt, sand, and gravel. Damming of the Muscatatuck River to the west by Illinoian outwash created a large lake, which backed up into southwestern Jennings County. These lacustrine deposits consist primarily of silt and clay.

About 20,000 years ago the Wisconsinan ice advance reached the northwest corner of Jennings County. A thin sheet of Wisconsinan till was deposited as ground moraine. Melting of the Wisconsinan ice sheet produced meltwater streams (valley trains), and Wisconsinan outwash terraces occur in the extreme northwest corner of the county. A Wisconsinan lacustrine deposit is in the extreme southwest corner of the county.

During the melting of the Wisconsinan ice sheet, which resulted in the formation of broad, braided streams to the west of Jennings County, silt and sand were picked up by the strong westerly winds and spread eastward. Sand dunes occur in Sand Creek valley at the northwest edge of the county. Silt deposits in the form of loess were blown much farther and at one time covered all of Jennings County with a thin layer of silt. Loess is easily eroded and has been removed from valleys by post-Wisconsinan erosion. Although not shown on most geologic maps, loess has played an important role as a parent material in upland soil development.

During the past 15,000 years, the geologic story consists of weathering, erosion, and soil development. Drainage lines have been developed, either along preglacial lines or along newly developed lines. Karst has continued to develop slowly, probably at a slower rate than in preglacial times because of the existence of glacial deposits that overlie carbonate bedrock.

Modern alluvium, consisting of silt, sand, and gravel, occurs in nearly all of the valleys in the county.

Climate

Table 1 gives data on temperature and precipitation for the survey area as recorded at North Vernon in the period 1971 to 2000. Table 2 shows probable dates of the first freeze in fall and the last freeze in spring. Table 3 provides data on the length of the growing season.

In winter, the average temperature is 33.3 degrees F and the average daily minimum temperature is 24.2 degrees. In summer, the average temperature is 73.9 degrees and the average daily maximum temperature is 85.0 degrees.

Growing degree days are shown in table 1. They are equivalent to “heat units.” During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (40 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall.

The average annual total precipitation is 44.29 inches. Of this total, about 28 inches, or 63 percent, usually falls in April through October. The growing season for most crops falls within this period. Thunderstorms occur on about 45 days each year, and most occur between May and August.

The average seasonal snowfall is 10.9 inches. The greatest snow depth at any one time during the period of record was 20 inches recorded on February 1, 1978. On an average, 10 days per year have at least 1 inch of snow on the ground.

The average relative humidity in midafternoon is about 56 percent. Humidity is higher at night, and the average at dawn is about 81 percent. The sun shines 66 percent of the time possible in summer and 43 percent in winter. The prevailing wind is from the south for most of the year but is from the northwest during February and March. Average windspeed is highest, around 10 miles per hour, from January through April.

How This Survey Was Made

This survey was made to provide information about the soils and miscellaneous areas in Jennings County, which is in Major Land Resource Areas (MLRAs) 111A and 114A. MLRAs are geographically associated land resource units that share a common land use, elevation, topography, climate, water, soils, and vegetation (USDA/NRCS, 2006). Map unit design is based on the occurrence of each soil throughout an MLRA.

The information in this survey includes a description of the soils and miscellaneous areas and their location and a discussion of their suitability, limitations, and management for specified uses. Soil scientists observed the steepness, length, and shape of the slopes; the degree of erosion; the general pattern of drainage; and the kinds of crops and native plants. To study the soil profile, which is the sequence of natural layers, or horizons, soil scientists examined the soil with the aid of a soil probe or auger. The profile extends from the surface down into the unconsolidated material in which the soil formed. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

The soils in the survey area are in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil is associated with a particular kind or segment of the landscape. By observing the soils in the survey area and relating their position to specific segments of the landscape, soil scientists develop a concept, or model, of how the soils were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil at a specific location on the landscape.

Individual soils on the landscape commonly merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-geomorphologic relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Fieldwork in Jennings County consisted primarily of soil transects, spot remapping, and adjustments of soil map unit line work conducted by soil scientists. Soil transects are a systematic way of characterizing the composition of the specific soil types within a map unit. Soil borings are taken at regular intervals. Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features. The results of these and other observations enable the soil scientists to assign the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Data are assembled from other sources, such as research information, production records, and field experience of specialists.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

Aerial photographs used for fieldwork in this survey were taken in 1992 and included stereoscopic coverage of most of the county. The entire county was evaluated stereoscopically, and adjustments to the original soil boundaries were drawn on these photographs. Soil scientists also studied U.S. Geological Survey topographic maps enlarged to a scale of 1:12,000. These enlarged topographic maps were used to help adjust the original soil boundary lines in forested areas.

The descriptions, names, and delineations of the soils in this survey area may not fully agree with those of the soils in adjacent survey areas. Differences are the result of an improved knowledge of soils, modifications in series concepts, or variations in the intensity of mapping or in the extent of the soils in the survey areas.

Detailed Soil Map Units

The map units delineated on the detailed soil maps in this survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this section, along with the maps, can be used to determine the suitability and potential of a unit for specific uses. They also can be used to plan the management needed for those uses.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. The contrasting components are mentioned in the map unit descriptions. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape. In some cases a minor component may be referred to that was not mapped in Jennings County but that has been mapped within the major land resource areas (MLRAs) of which Jennings County is a part.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives the principal hazards and limitations to be considered in planning for specific uses.

Soils that have profiles that are almost alike make up a *soil series*. All the soils of a series have major horizons that are similar in composition, thickness, and arrangement. The soils of a given series can differ in texture of the surface layer,

slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Scottsburg silt loam, 0 to 2 percent slopes, is a phase of the Scottsburg series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Trappist-Rohan silt loams, 12 to 25 percent slopes, eroded, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Caneyville and Grayford silt loams, 12 to 25 percent slopes, severely eroded, is an undifferentiated group in this survey area.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Pits, quarry, is an example.

Table 4 lists the map units in this survey area. Other tables give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils.

AddA—Avonburg silt loam, 0 to 2 percent slopes

Setting

Landform: Illinoian till plains
Position on the landform: Summits

Map Unit Composition

Avonburg and similar soils—85 percent
The poorly drained Cobbsfork and similar soils, which are in depressions—10 percent
The moderately well drained Nabb and similar soils, which are on summits—5 percent

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained

Properties and Qualities of the Avonburg Soil

Parent material: Loess and the underlying paleosol that formed in loamy till
Drainage class: Somewhat poorly drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: 40 to 60 inches to a fragipan
Available water capacity: About 9.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 0.5 foot (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric

Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

AddB2—Avonburg silt loam, 2 to 4 percent slopes, eroded

Setting

Landform: Illinoian till plains
Position on the landform: Upper backslopes and shoulders

Map Unit Composition

Avonburg and similar soils—75 percent
The moderately well drained Nabb and similar soils, which are on backslopes and shoulders—10 percent
The poorly drained Cobbsfork and similar soils, which are in depressions—10 percent
The somewhat poorly drained Wakeland and similar soils, which are in narrow drainageways—5 percent

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland where drained

Properties and Qualities of the Avonburg Soil

Parent material: Loess and the underlying paleosol that formed in loamy till
Drainage class: Somewhat poorly drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: 40 to 60 inches to a fragipan
Available water capacity: About 8.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 0.5 foot (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

AzoA—Ayrshire fine sandy loam, sandy substratum, 0 to 2 percent slopes

Setting

Landform: Dunes, interdunes
Position on the landform: Footslopes

Map Unit Composition

Ayrshire and similar soils—88 percent
The moderately well drained Bobtown and similar soils, which are on backslopes—7 percent
The poorly drained Lyles and similar soils, which are in depressions—5 percent

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained

Properties and Qualities of the Ayrshire Soil

Parent material: Sandy eolian deposits
Drainage class: Somewhat poorly drained
Permeability to a depth of 40 inches: Moderate or moderately rapid
Permeability below a depth of 40 inches: Moderate to rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.0 percent
Shrink-swell potential: Low
Depth and months of the highest apparent seasonal high water table: 0.5 foot (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

BbhA—Bartle silt loam, 0 to 2 percent slopes

Setting

Landform: Stream terraces
Position on the landform: Treads

Map Unit Composition

Bartle and similar soils—83 percent
The poorly drained Peoga and similar soils, which are in depressions—10 percent
The moderately well drained Pekin and similar soils, which are on risers—5 percent
The rarely flooded Bartle and similar soils, which are on footslopes—2 percent

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained

Properties and Qualities of the Bartle Soil

Parent material: Loess over silty alluvium
Drainage class: Somewhat poorly drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow to moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.1 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1.0 to 2.0 percent
Shrink-swell potential: Low
Depth and months of the highest perched seasonal high water table: 0.5 foot (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

BgeAH—Birds silt loam, 0 to 1 percent slopes, frequently flooded, brief duration

Setting

Landform: Backswamps, flood plains

Map Unit Composition

Birds and similar soils—85 percent
The somewhat poorly drained Wakeland and similar soils, which are on flood plains—10 percent
The very poorly drained Wilhite and similar soils, which are in backswamps—5 percent

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland where drained and either protected from flooding or not frequently flooded during the growing season

Properties and Qualities of the Birds Soil

Parent material: Silty alluvium
Drainage class: Poorly drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderately slow or moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 13.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Depth and months of the highest apparent seasonal high water table: At the surface (January, February, March)
Frequency and most likely period of ponding: Frequent (January, February, March, April, May, December)
Frequency and most likely period of flooding: Frequent (January, February, March, April)
Hydric soil status: Hydric
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

BgeAHU—Birds silt loam, undrained, 0 to 1 percent slopes, frequently flooded, brief duration

Setting

Landform: Backswamps, flood plains

Map Unit Composition

Birds, undrained, and similar soils—90 percent
The somewhat poorly drained Wakeland, undrained, and similar soils, which are on flood plains—5 percent
The very poorly drained Wilhite, undrained, and similar soils, which are in backswamps—5 percent

Interpretive Groups

Land capability classification: 5w
Prime farmland category: Not prime farmland

Properties and Qualities of the Birds Soil

Parent material: Silty alluvium
Drainage class: Poorly drained
Permeability to a depth of 40 inches: Moderately slow or moderate
Permeability below a depth of 40 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 13.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Depth and months of the highest apparent seasonal high water table: At the surface (January, February, March, April, May, June, July, November, December)
Frequency and most likely period of ponding: Frequent (January, February, March, April, May, June, July, December)
Frequency and most likely period of flooding: Frequent (January, February, March, April)
Hydric soil status: Hydric
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

BkeB—Bloomfield-Alvin complex, 1 to 6 percent slopes

Setting

Landform: Dunes
Position on the landform: Shoulders, backslopes

Map Unit Composition

Bloomfield and similar soils—50 percent
Alvin and similar soils—45 percent
The moderately well drained Bobtown and similar soils, which are on footslopes of dunes—5 percent

Interpretive Groups

Land capability classification: Bloomfield—3s; Alvin—2e
Prime farmland category: Not prime farmland

Properties and Qualities of the Bloomfield Soil

Parent material: Sandy eolian deposits
Drainage class: Somewhat excessively drained
Permeability to a depth of 40 inches: Moderately rapid or rapid
Permeability below a depth of 40 inches: Moderately rapid or rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 5.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 1.5 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6.7 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Low
Hazard of corrosion: Low for steel and high for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Very high

Properties and Qualities of the Alvin Soil

Parent material: Loamy and sandy eolian deposits
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderately rapid or rapid
Permeability below a depth of 40 inches: Moderately rapid or rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 1.5 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6.7 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and high for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: High

BlbB2—Blocher, soft black shale substratum-Jennings silt loams, 2 to 6 percent slopes, eroded

Setting

Landform: Illinoian till plains
Position on the landform: Summits, shoulders

Map Unit Composition

Blocher, soft black shale substratum, and similar soils—50 percent
Jennings and similar soils—40 percent

The deep, moderately well drained Deputy and similar soils, which are on footslopes—5 percent
The very deep, moderately well drained Nabb and similar soils, which are on summits and shoulders—5 percent

Interpretive Groups

Land capability classification: Blocher—2e; Jennings—2e
Prime farmland category: Prime farmland

Properties and Qualities of the Blocher Soil

Parent material: Loess over loamy till over clayey material weathered from Devonian black shale bedrock
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 2.0 feet (January, February, March, April, December)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Properties and Qualities of the Jennings Soil

Parent material: Loess over loamy till over clayey material weathered from Devonian black shale bedrock
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Impermeable to moderately slow
Depth to restrictive feature: 20 to 32 inches to a fragipan; 60 to 90 inches to lithic bedrock
Available water capacity: About 7.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 2.0 feet (January, February, March, April, December)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

BlcC2—Blocher, soft black shale substratum-Jennings-Deputy silt loams, 6 to 12 percent slopes, eroded

Setting

Landform: Illinoian till plains
Position on the landform: Backslopes, shoulders

Map Unit Composition

Blocher, soft black shale substratum, and similar soils—42 percent
Jennings and similar soils—27 percent
Deputy and similar soils—25 percent
The severely eroded Blocher and similar soils, which are on shoulders and backslopes—2 percent
The well drained Bonnell and similar soils, which are on backslopes—2 percent
The somewhat poorly drained Wakeland and similar soils, which are in narrow drainageways—2 percent

Interpretive Groups

Land capability classification: Blocher—3e; Jennings—3e; Deputy—3e
Prime farmland category: Not prime farmland

Properties and Qualities of the Blocher Soil

Parent material: Loess over loamy till over Devonian black shale bedrock
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Slow to moderate
Permeability below a depth of 40 inches: Impermeable to moderately slow
Depth to restrictive feature: 69 to 98 inches to paralithic bedrock
Available water capacity: About 9.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 2.0 feet (January, February, March, April, December)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Jennings Soil

Parent material: Loess over loamy till over clayey material weathered from Devonian black shale bedrock
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Impermeable to moderately slow
Depth to restrictive feature: 20 to 32 inches to a fragipan; 60 to 90 inches to lithic bedrock
Available water capacity: About 7.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate

Depth and months of the highest perched seasonal high water table: 2.0 feet (January, February, March, April, December)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Deputy Soil

Parent material: Loess and clayey material weathered from Devonian black shale bedrock
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Slow to moderate
Permeability below a depth of 40 inches: Impermeable to moderately slow
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock; 60 to 80 inches to lithic bedrock
Available water capacity: About 8.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 1.5 feet (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

BlcC3—Blocher, soft black shale substratum-Jennings-Deputy silt loams, 6 to 12 percent slopes, severely eroded

Setting

Landform: Illinoian till plains
Position on the landform: Backslopes, shoulders

Map Unit Composition

Blocher, severely eroded, and similar soils—40 percent
Jennings, severely eroded, and similar soils—31 percent
Deputy, severely eroded, and similar soils—21 percent
The moderately eroded Blocher and similar soils, which are on shoulders and backslopes—5 percent
The somewhat poorly drained Wakeland and similar soils, which are in narrow drainageways—2 percent
The well drained Bonnell, severely eroded, and similar soils, which are on shoulders and backslopes—1 percent

Interpretive Groups

Land capability classification: Blocher—4e; Jennings—4e; Deputy—4e
Prime farmland category: Not prime farmland

Properties and Qualities of the Blocher Soil

Parent material: Loess over loamy till over Devonian black shale bedrock
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Slow to moderate
Permeability below a depth of 40 inches: Impermeable to moderately slow
Depth to restrictive feature: 59 to 83 inches to paralithic bedrock
Available water capacity: About 9.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 2.0 feet (January, February, March, April, December)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Jennings Soil

Parent material: Loess over loamy till over clayey material weathered from Devonian black shale bedrock
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Impermeable to moderately slow
Depth to restrictive feature: 15 to 20 inches to a fragipan; 60 to 90 inches to lithic bedrock
Available water capacity: About 6.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 1.5 feet (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Deputy Soil

Parent material: Loess and clayey material weathered from Devonian black shale bedrock
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Slow to moderate
Permeability below a depth of 40 inches: Impermeable to moderately slow

Depth to restrictive feature: 40 to 60 inches to paralithic bedrock; 60 to 80 inches to lithic bedrock
Available water capacity: About 6.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 1.5 feet (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

BlgC2—Blocher-Cincinnati silt loams, 6 to 12 percent slopes, eroded

Setting

Landform: Illinoian till plains
Position on the landform: Backslopes, shoulders

Map Unit Composition

Blocher and similar soils—54 percent
Cincinnati and similar soils—35 percent
The severely eroded Blocher and similar soils, which are on shoulders and backslopes—5 percent
The severely eroded Cincinnati and similar soils, which are on shoulders and backslopes—3 percent
The somewhat poorly drained Wakeland and similar soils, which are in narrow drainageways—2 percent
The well drained Bonnell and similar soils, which are on backslopes—1 percent

Interpretive Groups

Land capability classification: Blocher—3e; Cincinnati—3e
Prime farmland category: Not prime farmland

Properties and Qualities of the Blocher Soil

Parent material: Loess and loamy materials and the underlying paleosol that formed in loamy till
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Slow to moderate
Permeability below a depth of 40 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 2.0 feet (January, February, March, April, December)
Ponding: None
Flooding: None

Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Cincinnati Soil

Parent material: Loess and the underlying paleosol that formed in loamy till
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: 20 to 36 inches to a fragipan
Available water capacity: About 7.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 1.7 feet (January, February, March, April, December)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

BlgC3—Blocher-Cincinnati silt loams, 6 to 12 percent slopes, severely eroded

Setting

Landform: Illinoian till plains
Position on the landform: Backslopes, shoulders

Map Unit Composition

Blocher, severely eroded, and similar soils—45 percent
Cincinnati, severely eroded, and similar soils—34 percent
The moderately eroded Cincinnati and similar soils, which are on shoulders and backslopes—10 percent
The moderately eroded Blocher and similar soils, which are on shoulders and backslopes—8 percent
The somewhat poorly drained Wakeland and similar soils, which are in narrow drainageways—2 percent
The well drained Bonnell and similar soils, which are on backslopes—1 percent

Interpretive Groups

Land capability classification: Blocher—4e; Cincinnati—4e
Prime farmland category: Not prime farmland

Properties and Qualities of the Blocher Soil

Parent material: Loess and loamy materials and the underlying paleosol that formed in loamy till
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Slow to moderate
Permeability below a depth of 40 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 2.0 feet (January, February, March, April, December)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Cincinnati Soil

Parent material: Loess and the underlying paleosol that formed in loamy till
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Slow
Depth to restrictive feature: 10 to 20 inches to a fragipan
Available water capacity: About 6.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 1.0 foot (January, February, March, April, December)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

BlkE2—Bonnell-Blocher-Hickory silt loams, 12 to 25 percent slopes, eroded

Setting

Landform: Illinoian till plains
Position on the landform: Backslopes

Map Unit Composition

Bonnell and similar soils—40 percent
Blocher and similar soils—30 percent

Hickory and similar soils—20 percent
The severely eroded Blocher and similar soils, which are on shoulders and backslopes—3 percent
The severely eroded Bonnell and similar soils, which are on backslopes—3 percent
The moderately well drained Cincinnati and similar soils, which have a fragipan and are on shoulders—2 percent
The somewhat poorly drained Wakeland and similar soils in narrow drainageways—2 percent

Interpretive Groups

Land capability classification: Bonnell—6e; Blocher—4e; Hickory—6e
Prime farmland category: Not prime farmland

Properties and Qualities of the Bonnell Soil

Parent material: Loess or loamy materials and the underlying clayey paleosol that formed in loamy till
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderately slow or moderate
Permeability below a depth of 40 inches: Slow to moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Depth to seasonal high water table: More than 6.7 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Blocher Soil

Parent material: Loess and loamy materials and the underlying paleosol that formed in loamy till
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Slow to moderate
Permeability below a depth of 40 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 2.0 feet (January, February, March, April, December)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: High

Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Hickory Soil

Parent material: Loess and loamy till; or loamy till
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 4.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6.7 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

BnjA—Bobtown loamy fine sand, 0 to 3 percent slopes

Setting

Landform: Dunes
Position on the landform: Summits

Map Unit Composition

Bobtown and similar soils—92 percent
The somewhat poorly drained Ayrshire and similar soils, which are on footslopes—5 percent
The somewhat excessively drained Bloomfield and similar soils, which are on shoulders and backslopes—3 percent

Interpretive Groups

Land capability classification: 2s
Prime farmland category: Prime farmland

Properties and Qualities of the Bobtown Soil

Parent material: Sandy eolian deposits
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Moderate to rapid
Permeability below a depth of 40 inches: Moderate to rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Depth and months of the highest apparent seasonal high water table: 1.5 feet (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric

Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: High

BnuD3—Bonnell-Hickory-Blocher complex, 12 to 25 percent slopes, severely eroded

Setting

Landform: Illinoian till plains
Position on the landform: Shoulders, backslopes

Map Unit Composition

Bonnell, severely eroded, and similar soils—37 percent
Hickory, severely eroded, and similar soils—31 percent
Blocher, severely eroded, and similar soils—25 percent
The somewhat poorly drained Holton and similar soils, which are in narrow drainageways—3 percent
The moderately eroded Blocher and similar soils, which are on shoulders and backslopes—2 percent
The moderately well drained Cincinnati and similar soils, which have a fragipan and are on shoulders and backslopes—2 percent

Interpretive Groups

Land capability classification: Bonnell—6e; Hickory—6e; Blocher—6e
Prime farmland category: Not prime farmland

Properties and Qualities of the Bonnell Soil

Parent material: Loess or loamy materials and the underlying clayey paleosol that formed in loamy till
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderately slow or moderate
Permeability below a depth of 40 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: High
Depth to seasonal high water table: More than 6.7 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: Moderate
Hazard of corrosion: High for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Hickory Soil

Parent material: Loamy till
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate

Permeability below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.1 to 2.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6.7 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Blocher Soil

Parent material: Loess and loamy materials and the underlying paleosol that formed in loamy till
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Slow to moderate
Permeability below a depth of 40 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 2.0 feet (January, February, March, April, December)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

BnxE2—Bonnell-Grayford silt loams, karst, hilly, eroded

Setting

Landform: Illinoian till plains, sinkholes
Position on the landform: Backslopes, footslopes

Map Unit Composition

Bonnell and similar soils—65 percent
Grayford and similar soils—25 percent
The loamy, very deep Hickory and similar soils, which are on backslopes—6 percent
The moderately well drained Blocher and similar soils, which are on shoulders and backslopes—2 percent
The severely eroded Bonnell and similar soils, which are on backslopes—1 percent
The well drained Haymond and similar soils, which are in depressions—1 percent

Interpretive Groups

Land capability classification: Bonnell—6e; Grayford—6e
Prime farmland category: Not prime farmland

Properties and Qualities of the Bonnell Soil

Parent material: Loess or loamy materials and the underlying clayey paleosol that formed in loamy till
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderately slow or moderate
Permeability below a depth of 40 inches: Slow to moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Depth to seasonal high water table: More than 6.7 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Grayford Soil

Parent material: Loess over loamy till over clayey material weathered from limestone
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderately slow to rapid
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Available water capacity: About 8.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Depth to seasonal high water table: More than 4.5 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

BnxE3—Bonnell-Grayford silt loams, karst, hilly, severely eroded

Setting

Landform: Illinoian till plains, sinkholes
Position on the landform: Backslopes, footslopes

Map Unit Composition

Bonnell, severely eroded, and similar soils—65 percent
Grayford, severely eroded, and similar soils—25 percent
The loamy, very deep Hickory and similar soils, which are on backslopes—6 percent
The moderately well drained Blocher and similar soils, which are on shoulders and backslopes—2 percent
The moderately eroded Bonnell and similar soils, which are on backslopes—1 percent
The well drained Haymond and similar soils, which are in depressions—1 percent

Interpretive Groups

Land capability classification: Bonnell—6e; Grayford—6e
Prime farmland category: Not prime farmland

Properties and Qualities of the Bonnell Soil

Parent material: Loess or loamy materials and the underlying clayey paleosol that formed in loamy till
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderately slow or moderate
Permeability below a depth of 40 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: High
Depth to seasonal high water table: More than 6.7 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: Moderate
Hazard of corrosion: High for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Grayford Soil

Parent material: Loess over loamy till over clayey material weathered from limestone
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderately slow to rapid
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Available water capacity: About 7.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: High
Depth to seasonal high water table: More than 4.5 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

BobE4—Bonnell-Hickory clay loams, 15 to 30 percent slopes, very severely eroded

Setting

Landform: Illinoian till plains
Position on the landform: Backslopes, shoulders

Map Unit Composition

Bonnell, very severely eroded, and similar soils—45 percent
Hickory, very severely eroded, and similar soils—30 percent
The severely eroded Bonnell and similar soils, which are on shoulders and backslopes—8 percent
The severely eroded Hickory and similar soils, which are on shoulders and backslopes—6 percent
The moderately well drained Cincinnati, eroded, and similar soils, which are on shoulders and backslopes—5 percent
The moderately well drained Blocher, eroded, and similar soils, which are on shoulders and backslopes—4 percent
The well drained Trappist and similar soils, which are on the lower backslopes underlain with black shale—2 percent

Interpretive Groups

Land capability classification: Bonnell—7e; Hickory—7e
Prime farmland category: Not prime farmland

Properties and Qualities of the Bonnell Soil

Parent material: Clayey paleosol over loamy till
Drainage class: Well drained
Permeability to a depth of 40 inches: Slow to moderate
Permeability below a depth of 40 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 6.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.1 to 1.0 percent
Shrink-swell potential: High
Depth to seasonal high water table: More than 6.7 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material, and small gullies and rills are typical.
Potential for frost action: Moderate
Hazard of corrosion: High for steel and concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Hickory Soil

Parent material: Loamy till
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.1 to 1.0 percent

Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6.7 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material, and small gullies and rills are typical.
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

BodAQ—Bonnie silt loam, 0 to 1 percent slopes, rarely flooded

Setting

Landform: Backswamps, flood plains

Map Unit Composition

Bonnie and similar soils—85 percent
Bonnie, undrained, and similar soils, which are in backswamps—10 percent
The somewhat poorly drained Stendal and similar soils, which are on flood plains—5 percent

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained

Properties and Qualities of the Bonnie Soil

Parent material: Acid silty alluvium
Drainage class: Poorly drained
Permeability to a depth of 40 inches: Moderately slow or moderate
Permeability below a depth of 40 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 13.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Depth and months of the highest apparent seasonal high water table: At the surface (January, February, March)
Frequency and most likely period of ponding: Frequent (January, February, March, April, May, December)
Frequency and most likely period of flooding: Rare (January, February, March, April, May, June, November, December)
Hydric soil status: Hydric
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

CcaG—Caneyville-Rock outcrop complex, 25 to 60 percent slopes

Setting

Landform: Hills underlain with limestone bedrock (fig. 3)
Position on the landform: Backslopes

Map Unit Composition

Caneyville—55 percent
Rock outcrop—19 percent
The deep, well drained Grayford and similar soils, which are on the upper backslopes—14 percent
The deep, well drained Zenas and similar soils, which are on shoulders—6 percent
The very deep, well drained Ryker and similar soils, which are on shoulders and backslopes—4 percent
The shallow, well drained Corydon and similar soils, which are on backslopes—2 percent

Interpretive Groups

Land capability classification: Caneyville—7e; Rock outcrop—none assigned
Prime farmland category: Not prime farmland

Properties and Qualities of the Caneyville Soil

Parent material: Loess over clayey material weathered from limestone
Drainage class: Well drained
Permeability to a depth of 40 inches: Slow to moderately rapid
Permeability below a depth of 40 inches: Slow to moderately rapid
Depth to restrictive feature: 20 to 40 inches to lithic bedrock

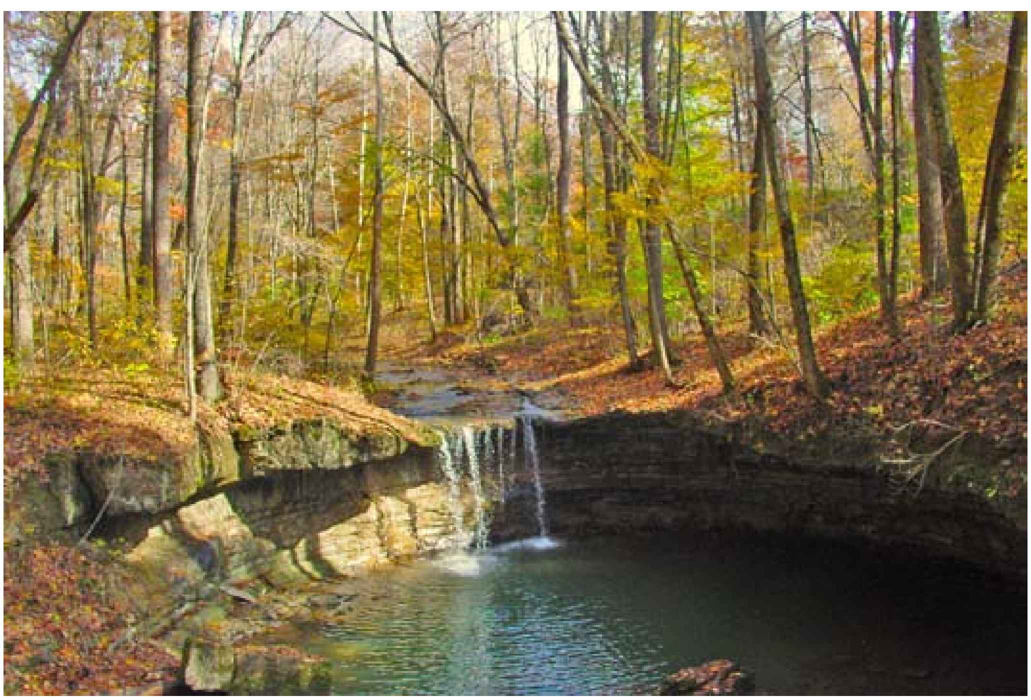

Figure 3.—A small waterfall in an area of Caneyville-Rock outcrop complex, 25 to 60 percent slopes. The exposed bedrock is limestone.

Available water capacity: About 4.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 4.0 percent
Shrink-swell potential: High
Depth to seasonal high water table: More than 2.5 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Rock Outcrop

Kind of material: Limestone
Ponding: None
Flooding: None

CcbC2—Caneyville-Zenas silt loams, karst, rolling, eroded

Setting

Landform: Hills underlain with limestone bedrock; sinkholes
Position on the landform: Backslopes, shoulders

Map Unit Composition

Caneyville and similar soils—45 percent
Zenas and similar soils—40 percent
The gently sloping Caneyville and similar soils, which are on backslopes—8 percent
The very deep, well drained Crider and similar soils, which are on shoulders and backslopes—7 percent

Interpretive Groups

Land capability classification: Caneyville—3e; Zenas—2e
Prime farmland category: Not prime farmland

Properties and Qualities of the Caneyville Soil

Parent material: Loess over clayey material weathered from limestone
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderately slow to rapid
Permeability below a depth of 40 inches: Moderately slow to rapid
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Available water capacity: About 4.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Depth to seasonal high water table: More than 2.5 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: High

Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Zenas Soil

Parent material: Loess over clayey material weathered from limestone
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderately slow to rapid
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Available water capacity: About 7.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Very high
Depth to seasonal high water table: More than 4.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

CcgD2—Caneyville and Grayford silt loams, 12 to 25 percent slopes, eroded

Setting

Landform: Hills underlain with limestone bedrock
Position on the landform: Backslopes

Map Unit Composition

Caneyville and similar soils—0 to 45 percent
Grayford and similar soils—0 to 45 percent
The very deep Ryker and similar soils, which are on shoulders and backslopes—0 to 4 percent
The deep, silty Zenas and similar soils, which are on shoulders and backslopes—0 to 4 percent
The shallow Corydon and similar soils, which are on backslopes—0 to 2 percent

Interpretive Groups

Land capability classification: Caneyville—6e; Grayford—4e
Prime farmland category: Not prime farmland

Properties and Qualities of the Caneyville Soil

Parent material: Loess over clayey material weathered from limestone
Drainage class: Well drained
Permeability to a depth of 40 inches: Slow to moderately rapid
Permeability below a depth of 40 inches: Slow to moderately rapid
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Available water capacity: About 4.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 4.0 percent
Shrink-swell potential: High
Depth to seasonal high water table: More than 2.5 feet all year

Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Grayford Soil

Parent material: Loess over loamy till over clayey material weathered from limestone
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Slow to moderately rapid
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Available water capacity: About 8.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Depth to seasonal high water table: More than 4.5 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

CcgD3—Caneyville and Grayford silt loams, 12 to 25 percent slopes, severely eroded

Setting

Landform: Hills underlain with limestone bedrock
Position on the landform: Backslopes

Map Unit Composition

Caneyville and similar soils—0 to 45 percent
Grayford and similar soils—0 to 45 percent
The very deep Ryker and similar soils, which are on shoulders and backslopes—0 to 4 percent
The deep, silty Zenas and similar soils, which are on shoulders and backslopes—0 to 4 percent
The shallow Corydon and similar soils, which are on backslopes—0 to 2 percent

Interpretive Groups

Land capability classification: Caneyville—6e; Grayford—6e
Prime farmland category: Not prime farmland

Properties and Qualities of the Caneyville Soil

Parent material: Loess over clayey material weathered from limestone
Drainage class: Well drained

Permeability to a depth of 40 inches: Slow to moderately rapid
Permeability below a depth of 40 inches: Slow to moderately rapid
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Available water capacity: About 3.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: High
Depth to seasonal high water table: More than 2.5 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: Moderate
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Grayford Soil

Parent material: Loess over loamy till over clayey material weathered from limestone
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Slow to moderately rapid
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Available water capacity: About 7.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: High
Depth to seasonal high water table: More than 4.5 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

CldB2—Cincinnati-Blocher silt loams, 2 to 6 percent slopes, eroded

Setting

Landform: Illinoian till plains
Position on the landform: Summits, shoulders

Map Unit Composition

Cincinnati and similar soils—45 percent
Blocher and similar soils—45 percent
The moderately well drained Nabb and similar soils, which are on the slightly flatter and wetter summits and shoulders—10 percent

Interpretive Groups

Land capability classification: Cincinnati—2e; Blocher—2e
Prime farmland category: Prime farmland

Properties and Qualities of the Cincinnati Soil

Parent material: Loess and the underlying paleosol that formed in loamy till
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: 20 to 36 inches to a fragipan
Available water capacity: About 7.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 1.7 feet (January, February, March, April, December)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Properties and Qualities of the Blocher Soil

Parent material: Loess and loamy materials and the underlying paleosol that formed in loamy till
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Slow to moderate
Permeability below a depth of 40 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 2.0 feet (January, February, March, April, December)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

ClfA—Cobbsfork silt loam, 0 to 1 percent slopes

Setting

Landform: Illinoian till plains
Position on the landform: Summits, talfs

Map Unit Composition

Cobbsfork and similar soils—85 percent
The undrained Cobbsfork and similar soils, which are on summits or talfs—10 percent

The somewhat poorly drained Avonburg and similar soils, which are on summits—5 percent

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland where drained

Properties and Qualities of the Cobbsfork Soil

Parent material: Loess and the underlying paleosol that formed in loamy till
Drainage class: Poorly drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: At the surface (January, February, March)
Frequency and most likely period of ponding: Frequent (January, February, March, April, May, December) (fig. 4)
Flooding: None
Hydric soil status: Hydric
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

CwaAQ—Cuba silt loam, 0 to 2 percent slopes, rarely flooded

Setting

Landform: Flood-plain steps

Map Unit Composition

Cuba and similar soils—92 percent
The moderately well drained Steff and similar soils, which are on flood-plain steps—5 percent
The occasionally flooded Cuba and similar soils, which are on flood-plain steps—3 percent

Interpretive Groups

Land capability classification: 1
Prime farmland category: Prime farmland

Properties and Qualities of the Cuba Soil

Parent material: Acid silty alluvium
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low

Figure 4.—Ponding in an area of Cobbsfork silt loam, 0 to 1 percent slopes.

Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Frequency and most likely period of flooding: Rare (January, February, March, April, May, June)
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

CxdA—Cyclone silty clay loam, 0 to 1 percent slopes

Setting

Landform: Wisconsinan till plains
Position on the landform: Depressions

Map Unit Composition

Cyclone and similar soils—90 percent
The somewhat poorly drained Crosby and similar soils, which are on footslopes—5 percent
The somewhat poorly drained Fincastle and similar soils, which are on footslopes—5 percent

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained

Properties and Qualities of the Cyclone Soil

Parent material: Loess or silty material over loamy till
Drainage class: Poorly drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderately slow or moderate

Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.0 to 6.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest apparent seasonal high water table: At the surface (January, February, December)
Frequency and most likely period of ponding: Frequent (January, February, March, December)
Flooding: None
Hydric soil status: Hydric
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

DfnA—Dubois silt loam, 0 to 2 percent slopes

Setting

Landform: Lake plains
Position on the landform: Summits

Map Unit Composition

Dubois and similar soils—85 percent
The poorly drained Peoga and similar soils, which are on broad interfluves or summits—10 percent
The moderately well drained Haubstadt and similar soils, which are on summits and shoulders—5 percent

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained

Properties and Qualities of the Dubois Soil

Parent material: Loess and the underlying paleosol that formed in loamy lacustrine deposits
Drainage class: Somewhat poorly drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: 22 to 40 inches to a fragipan
Available water capacity: About 9.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 0.5 foot (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

DfnB2—Dubois silt loam, 2 to 6 percent slopes, eroded

Setting

Landform: Lake plains
Position on the landform: Backslopes, shoulders

Map Unit Composition

Dubois and similar soils—77 percent
The moderately well drained Haubstadt and similar soils, which are on shoulders and backslopes—15 percent
The somewhat poorly drained Wakeland and similar soils, which are in narrow drainageways—5 percent
The poorly drained Peoga and similar soils, which are on broad interfluves or summits—3 percent

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland where drained

Properties and Qualities of the Dubois Soil

Parent material: Loess and the underlying paleosol that formed in loamy lacustrine deposits
Drainage class: Somewhat poorly drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: 22 to 40 inches to a fragipan
Available water capacity: About 7.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 0.5 foot (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

DtwC2—Deputy silt loam, 6 to 15 percent slopes, eroded

Setting

Landform: Hills and strath terraces underlain with Devonian black shale
Position on the landform: Backslopes, shoulders, risers

Map Unit Composition

Deputy and similar soils—75 percent
The severely eroded Deputy and similar soils, which are on backslopes and risers—12 percent

The moderately deep, well drained Trappist and similar soils, which are on backslopes and risers—5 percent
The very deep Blocher and similar soils, which are on the upper backslopes—3 percent
The very deep Jennings and similar soils, which have a fragipan and are on the upper backslopes—3 percent
The gently sloping Deputy and similar soils, which are on shoulders—2 percent

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland

Properties and Qualities of the Deputy Soil

Parent material: Loess and clayey material weathered from Devonian black shale bedrock
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Slow to moderate
Permeability below a depth of 40 inches: Impermeable to moderately slow
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock; 60 to 80 inches to lithic bedrock
Available water capacity: About 8.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 1.5 feet (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

DtzC3—Deputy-Trappist silty clay loams, 6 to 15 percent slopes, severely eroded

Setting

Landform: Hills and strath terraces underlain with Devonian black shale
Position on the landform: Shoulders, backslopes, risers

Map Unit Composition

Deputy, severely eroded, and similar soils—45 percent
Trappist, severely eroded, and similar soils—30 percent
The very deep, moderately well drained Scottsburg and similar soils, which are on summits and treads—10 percent
The moderately eroded Deputy and similar soils, which are on shoulders, backslopes, and risers—7 percent
The moderately eroded Trappist and similar soils, which are on backslopes and risers—5 percent

The very deep, moderately well drained Blocher and similar soils, which are on shoulders and the upper backslopes—3 percent

Interpretive Groups

Land capability classification: Deputy—4e; Trappist—4e
Prime farmland category: Not prime farmland

Properties and Qualities of the Deputy Soil

Parent material: Loess and clayey material weathered from Devonian black shale bedrock
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Slow to moderate
Permeability below a depth of 40 inches: Impermeable to moderately slow
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock; 60 to 80 inches to lithic bedrock
Available water capacity: About 6.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 1.5 feet (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Trappist Soil

Parent material: Loess and clayey material weathered from Devonian black shale bedrock
Drainage class: Well drained
Permeability to a depth of 40 inches: Impermeable to moderate
Permeability below a depth of 40 inches: Impermeable to moderately slow
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Available water capacity: About 3.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 2.5 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

EepAQ—Elkinsville silt loam, 0 to 2 percent slopes, rarely flooded

Setting

Landform: Stream terraces
Position on the landform: Treads

Map Unit Composition

Elkinsville and similar soils—90 percent
The gently sloping Elkinsville and similar soils, which are on risers—5 percent
The moderately well drained Pekin and similar soils, which are on risers—5 percent

Interpretive Groups

Land capability classification: 1
Prime farmland category: Prime farmland

Properties and Qualities of the Elkinsville Soil

Parent material: Loess and the underlying loamy alluvium
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6.7 feet all year
Ponding: None
Frequency and most likely period of flooding: Rare (January, February, March, April, May, June)
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

EesB2—Elkinsville-Millstone complex, 2 to 6 percent slopes, eroded

Setting

Landform: Stream terraces
Position on the landform: Treads and risers

Map Unit Composition

Elkinsville and similar soils—52 percent
Millstone and similar soils—43 percent
The moderately well drained Pekin and similar soils, which are on treads—5 percent

Interpretive Groups

Land capability classification: Elkinsville—2e; Millstone—2e
Prime farmland category: Prime farmland

Properties and Qualities of the Elkinsville Soil

Parent material: Loess and the underlying loamy alluvium
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6.7 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Properties and Qualities of the Millstone Soil

Parent material: Fine-loamy alluvium
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6.7 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

FdbA—Fincastle silt loam, 0 to 2 percent slopes

Setting

Landform: Wisconsinan till plains
Position on the landform: Footslopes

Map Unit Composition

Fincastle and similar soils—84 percent
The poorly drained Cyclone and similar soils, which are on toeslopes in depressions or on flats—10 percent
The moderately well drained Williamstown and similar soils, which are on backslopes and shoulders—6 percent

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained

Properties and Qualities of the Fincastle Soil

Parent material: Loess over loamy till
Drainage class: Somewhat poorly drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Very slow to moderate
Depth to restrictive feature: 40 to 60 inches to dense material
Available water capacity: About 10.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 0.5 foot (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

FdqB—Fincastle-Xenia silt loams, 2 to 4 percent slopes

Setting

Landform: Wisconsinan till plains
Position on the landform: Footslopes, shoulders, backslopes

Map Unit Composition

Fincastle and similar soils—50 percent
Xenia and similar soils—40 percent
The poorly drained Cyclone and similar soils, which are on toeslopes in depressions or on flats—10 percent

Interpretive Groups

Land capability classification: Fincastle—2w; Xenia—2e
Prime farmland category: Prime farmland where drained

Properties and Qualities of the Fincastle Soil

Parent material: Loess over loamy till
Drainage class: Somewhat poorly drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Very slow to moderate
Depth to restrictive feature: 40 to 60 inches to dense material
Available water capacity: About 10.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 0.5 foot (January, February, March)
Ponding: None
Flooding: None

Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Properties and Qualities of the Xenia Soil

Parent material: Loess over loamy till
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Very slow to moderate
Depth to restrictive feature: 40 to 60 inches to dense material
Available water capacity: About 10.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 1.5 feet (January, December)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

GmsF—Greybrook silt loam, 15 to 40 percent slopes

Setting

Landform: Lake plains
Position on the landform: Backslopes

Map Unit Composition

Greybrook and similar soils—89 percent
The moderately well drained Otwell and similar soils, which are on shoulders and backslopes—5 percent
The somewhat poorly drained Wakeland and similar soils, which are in narrow drainageways—4 percent
The well drained Negley and similar soils, which are redder and more leached than the Greybrook soil; on backslopes—2 percent

Interpretive Groups

Land capability classification: 7e
Prime farmland category: Not prime farmland

Properties and Qualities of the Greybrook Soil

Parent material: Loess and the underlying paleosol that formed in loamy lacustrine sediments
Drainage class: Well drained
Permeability to a depth of 40 inches: Slow to moderate
Permeability below a depth of 40 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches

Available water capacity: About 11.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 4.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6.7 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

HccB2—Haubstadt silt loam, 2 to 6 percent slopes, eroded

Setting

Landform: Lake plains
Position on the landform: Backslopes, shoulders

Map Unit Composition

Haubstadt and similar soils—84 percent
The somewhat poorly drained Dubois and similar soils, which are on shoulders—10 percent
The somewhat poorly drained Wakeland and similar soils, which are in narrow drainageways—4 percent
The strongly sloping Haubstadt and similar soils, which are on backslopes—2 percent

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland

Properties and Qualities of the Haubstadt Soil

Parent material: Loess and the underlying paleosol that formed in loamy lacustrine deposits
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: 20 to 40 inches to a fragipan
Available water capacity: About 8.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 1.5 feet (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

HcgAH—Haymond silt loam, 0 to 2 percent slopes, frequently flooded, brief duration

Setting

Landform: Flood plains and natural levees (fig. 5)

Map Unit Composition

Haymond and similar soils—85 percent
The loamy, well drained Wirt and similar soils, which are on flood plains and natural levees—10 percent
The moderately well drained Wilbur and similar soils, which are on flood plains—5 percent

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where protected from flooding or not frequently flooded during the growing season

Properties and Qualities of the Haymond Soil

Parent material: Silty alluvium over loamy alluvium
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Frequency and most likely period of flooding: Frequent (January, February, March, April)
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Low for steel and concrete
Surface runoff class: Very low
Susceptibility to water erosion: Slight
Susceptibility to wind erosion: Slight

HcgAW—Haymond silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration

Setting

Landform: Flood plains, flood-plain steps, and natural levees

Map Unit Composition

Haymond and similar soils—82 percent
The loamy, well drained Wirt and similar soils, which are on flood plains and flood-plain steps—10 percent
The moderately well drained Wilbur and similar soils, which are on flood plains and flood-plain steps—5 percent
The frequently flooded Haymond and similar soils, which are on flood plains—3 percent

Figure 5.—Debris from a flooding event in an area of Haymond silt loam, 0 to 2 percent slopes, frequently flooded, brief duration.

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland

Properties and Qualities of the Haymond Soil

Parent material: Silty alluvium over loamy alluvium
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Frequency and most likely period of flooding: Occasional (January, February, March, April, May, June)
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Low for steel and concrete
Surface runoff class: Very low
Susceptibility to water erosion: Slight
Susceptibility to wind erosion: Slight

HcpAP—Haymond silt loam, depression, 0 to 2 percent slopes, frequently ponded, very brief duration

Setting

Landform: Sinkholes
Position on the landform: Toeslopes

Map Unit Composition

Haymond, depression, frequently ponded, and similar soils—86 percent
The moderately well drained Wilbur, depression, frequently ponded, and similar soils, which are in sinkholes—14 percent

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Not prime farmland

Properties and Qualities of the Haymond Soil

Parent material: Silty alluvium over loamy alluvium
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6.0 feet all year
Frequency and most likely period of ponding: Frequent (January, February, March, April)
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Low for steel and concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

HeeG—Hickory loam, 25 to 50 percent slopes

Setting

Landform: Illinoian till plains
Position on the landform: Backslopes

Map Unit Composition

Hickory and similar soils—87 percent
The clayey, well drained Bonnell and similar soils, which are on backslopes—3 percent
The somewhat poorly drained Holton and similar soils, which are in narrow drainageways—3 percent
The moderately well drained Cincinnati and similar soils, which are on shoulders—2 percent
The deep, well drained Grayford and similar soils, which are on the lower backslopes underlain with limestone—2 percent
The shallow, well drained Rohan and similar soils, which are on the lower backslopes underlain with black shale—2 percent

The moderately deep, well drained Jessietown and similar soils, which are on the lower backslopes underlain with black shale—1 percent

Interpretive Groups

Land capability classification: 7e
Prime farmland category: Not prime farmland

Properties and Qualities of the Hickory Soil

Parent material: Loess and loamy till; or loamy till
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 4.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6.7 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

HizE2—Hickory-Grayford silt loams, 12 to 25 percent slopes, eroded

Setting

Landform: Illinoian till plains
Position on the landform: Backslopes

Map Unit Composition

Hickory and similar soils—55 percent
Grayford and similar soils—35 percent
The clayey, well drained, severely eroded Bonnell and similar soils, which are on backslopes—5 percent
The moderately well drained, severely eroded Blocher and similar soils, which are on shoulders—3 percent
The somewhat poorly drained Holton and similar soils, which are in narrow drainageways—2 percent

Interpretive Groups

Land capability classification: Hickory—6e; Grayford—4e
Prime farmland category: Not prime farmland

Properties and Qualities of the Hickory Soil

Parent material: Loess and loamy till; or loamy till
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches

Available water capacity: About 9.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 4.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6.7 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Grayford Soil

Parent material: Loess over loamy till over clayey material weathered from limestone
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Slow to moderately rapid
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Available water capacity: About 8.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Depth to seasonal high water table: More than 4.5 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

HizE3—Hickory-Grayford silt loams, 12 to 25 percent slopes, severely eroded

Setting

Landform: Illinoian till plains
Position on the landform: Backslopes

Map Unit Composition

Hickory, severely eroded, and similar soils—55 percent
Grayford, severely eroded, and similar soils—35 percent
The clayey, well drained Bonnell and similar soils, which are on backslopes—4 percent
The moderately eroded Hickory and similar soils, which are on backslopes—4 percent
The somewhat poorly drained Holton and similar soils, which are in narrow drainageways—2 percent

Interpretive Groups

Land capability classification: Hickory—6e; Grayford—6e
Prime farmland category: Not prime farmland

Properties and Qualities of the Hickory Soil

Parent material: Loess and loamy till; or loamy till
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.1 to 2.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6.7 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Grayford Soil

Parent material: Loess over loamy till over clayey material weathered from limestone
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Slow to moderately rapid
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Available water capacity: About 7.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: High
Depth to seasonal high water table: More than 4.5 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

HleAW—Holton silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration

Setting

Landform: Flood plains (fig. 6)

Map Unit Composition

Holton and similar soils—85 percent
The moderately well drained Oldenburg and similar soils, which are on flood plains—7 percent
The poorly drained, very deep, loamy Typic Fluvaquents and similar soils, which are on flood plains—5 percent
The frequently flooded Holton and similar soils, which are on flood plains—3 percent

Figure 6.—A flooded area of Holton silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration.

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained

Properties and Qualities of the Holton Soil

Parent material: Coarse-loamy alluvium
Drainage class: Somewhat poorly drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.0 percent
Shrink-swell potential: Low
Depth and months of the highest apparent seasonal high water table: 0.5 foot (January, February, March)
Frequency and most likely period of flooding: Occasional (January, February, March, April, May, June)
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

MhyB2—Medora silt loam, 2 to 6 percent slopes, eroded

Setting

Landform: Eskers (fig. 7)
Position on the landform: Shoulders and summits

Map Unit Composition

Medora and similar soils—88 percent
The well drained Parke and similar soils, which are on shoulders and summits—10 percent
The moderately sloping Medora and similar soils, which are on backslopes—2 percent

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland

Properties and Qualities of the Medora Soil

Parent material: Loess, loamy materials, and a paleosol that formed in the underlying outwash
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow to moderate
Depth to restrictive feature: 20 to 36 inches to a fragipan
Available water capacity: About 6.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 1.7 feet (January, February, March)

Figure 7.—The Medora soil is on the higher lying esker in the background. Nabb soils are on the till plain in the foreground.

Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

MhyC3—Medora silt loam, 6 to 12 percent slopes, severely eroded

Setting

Landform: Eskers
Position on the landform: Shoulders and backslopes

Map Unit Composition

Medora and similar soils—75 percent
The moderately eroded Medora and similar soils, which are on shoulders and backslopes—15 percent
The well drained Parke and similar soils, which are on shoulders and backslopes—10 percent

Interpretive Groups

Land capability classification: 4e
Prime farmland category: Not prime farmland

Properties and Qualities of the Medora Soil

Parent material: Loess, loamy materials, and a paleosol that formed in the underlying outwash
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Moderately slow or moderate
Depth to restrictive feature: 12 to 20 inches to a fragipan
Available water capacity: About 6.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 1.0 foot (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

MmoC3—Miami clay loam, 6 to 12 percent slopes, severely eroded

Setting

Landform: Wisconsinan till plains
Position on the landform: Shoulders and backslopes

Map Unit Composition

Miami and similar soils—97 percent
The somewhat poorly drained Crosby and similar soils, which are on footslopes—3 percent

Interpretive Groups

Land capability classification: 4e
Prime farmland category: Not prime farmland

Properties and Qualities of the Miami Soil

Parent material: Loamy till
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: 24 to 40 inches to dense material
Available water capacity: About 5.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.0 to 1.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 2.0 feet (December, January, February, March, April)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Very high
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

MmoD3—Miami clay loam, 12 to 18 percent slopes, severely eroded

Setting

Landform: Wisconsinan till plains
Position on the landform: Backslopes and shoulders

Map Unit Composition

Miami and similar soils—97 percent
The somewhat poorly drained Crosby and similar soils, which are on footslopes—3 percent

Interpretive Groups

Land capability classification: 6e
Prime farmland category: Not prime farmland

Properties and Qualities of the Miami Soil

Parent material: Loamy till
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: 24 to 40 inches to dense material
Available water capacity: About 5.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.0 to 1.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 2.0 feet (December, January, February, March, April)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and low for concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

MnpC2—Miami silt loam, 6 to 12 percent slopes, eroded

Setting

Landform: Wisconsinan till plains
Position on the landform: Shoulders and backslopes

Map Unit Composition

Miami and similar soils—95 percent
The poorly drained Cyclone and similar soils, which are on toeslopes or in depressions or swales—3 percent
The somewhat poorly drained Crosby and similar soils, which are on footslopes—2 percent

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland

Properties and Qualities of the Miami Soil

Parent material: Loess over loamy till
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: 24 to 40 inches to dense material
Available water capacity: About 6.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 2.0 feet (December, January, February, March, April)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.

Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

MnpD2—Miami silt loam, 12 to 18 percent slopes, eroded

Setting

Landform: Wisconsinan till plains
Position on the landform: Shoulders and backslopes

Map Unit Composition

Miami and similar soils—95 percent
The somewhat poorly drained Crosby and similar soils, which are on footslopes—5 percent

Interpretive Groups

Land capability classification: 4e
Prime farmland category: Not prime farmland

Properties and Qualities of the Miami Soil

Parent material: Loess over loamy till
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: 24 to 40 inches to dense material
Available water capacity: About 6.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 2.0 feet (December, January, February, March, April)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

NaaA—Nabb silt loam, 0 to 2 percent slopes

Setting

Landform: Illinoian till plains
Position on the landform: Summits

Map Unit Composition

Nabb and similar soils—85 percent
The somewhat poorly drained Avonburg and similar soils, which are on summits—15 percent

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland

Properties and Qualities of the Nabb Soil

Parent material: Loess and the underlying paleosol that formed in loamy till
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: 24 to 40 inches to a fragipan
Available water capacity: About 8.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 1.5 feet (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Slight
Susceptibility to wind erosion: Slight

NaaB2—Nabb silt loam, 2 to 6 percent slopes, eroded

Setting

Landform: Illinoian till plains
Position on the landform: Shoulders, summits, and backslopes

Map Unit Composition

Nabb and similar soils—78 percent
The moderately well drained Cincinnati and similar soils, which are on narrow summits and on shoulders and backslopes—10 percent
The somewhat poorly drained Avonburg and similar soils, which are on shoulders and backslopes—8 percent
The somewhat poorly drained Wakeland and similar soils, which are in narrow drainageways—4 percent

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland

Properties and Qualities of the Nabb Soil

Parent material: Loess and the underlying paleosol that formed in loamy till
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: 24 to 40 inches to a fragipan (fig. 8)
Available water capacity: About 8.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate

Figure 8.—The top of a subhorizon with a fragipan that has vertical streaks with a mean horizontal dimension of 4 inches or more.

Depth and months of the highest perched seasonal high water table: 1.5 feet (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Slight

OfaAW—Oldenburg silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration

Setting

Landform: Flood plains and flood-plain steps

Map Unit Composition

Oldenburg and similar soils—85 percent
The somewhat poorly drained Holton and similar soils, which are on flood plains—10 percent
The frequently flooded Oldenburg and similar soils, which are on flood plains—5 percent

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland

Properties and Qualities of the Oldenburg Soil

Parent material: Loamy alluvium
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Moderate or moderately rapid
Permeability below a depth of 40 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.0 percent
Shrink-swell potential: Low
Depth and months of the highest apparent seasonal high water table: 1.5 feet (January, February, March)
Ponding: None
Frequency and most likely period of flooding: Occasional (January, February, March, April, May, June)
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

OmkC2—Otwell silt loam, 6 to 12 percent slopes, eroded

Setting

Landform: Lake plains
Position on the landform: Shoulders, backslopes

Map Unit Composition

Otwell and similar soils—72 percent
The moderately well drained Haubstadt and similar soils, which are on moderately sloping shoulders and backslopes—12 percent
The well drained Olephant and similar soils, which are on backslopes—10 percent
The moderately well drained Haubstadt and similar soils, which are on gently sloping shoulders—3 percent
The well drained Parke and similar soils, which are on shoulders and backslopes—3 percent

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland

Properties and Qualities of the Otwell Soil

Parent material: Loess and the underlying paleosol that formed in loamy lacustrine sediments
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: 20 to 36 inches to a fragipan
Available water capacity: About 7.4 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 2.0 feet (January, February, March, April, December)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

OmkC3—Otwell silt loam, 6 to 12 percent slopes, severely eroded

Setting

Landform: Lake plains
Position on the landform: Backslopes, shoulders

Map Unit Composition

Otwell, severely eroded, and similar soils—72 percent
The moderately well drained Haubstadt, severely eroded, and similar soils, which are on moderately sloping shoulders and backslopes—12 percent
The well drained Olephant, severely eroded, and similar soils, which are on moderately sloping backslopes—10 percent
The moderately well drained Haubstadt, eroded, and similar soils, which are on gently sloping shoulders—3 percent
The well drained Negley and similar soils, which are on strongly sloping backslopes—3 percent

Interpretive Groups

Land capability classification: 4e
Prime farmland category: Not prime farmland

Properties and Qualities of the Otwell Soil

Parent material: Loess and the underlying paleosol that formed in loamy lacustrine deposits
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: 9 to 22 inches to a fragipan
Available water capacity: About 6.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 1.5 feet (January, February, March, April, December)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High

Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Omz—Orthents, earthen dam

Map Unit Composition

Orthents, earthen dam—100 percent

Interpretive Groups

Land capability classification: None assigned
Prime farmland category: Not prime farmland

General Description

This map unit generally consists of areas of mixed soil material used for the impoundment of water. These areas include spillways or small sites from which soil material has been removed to provide fill material for the dam.

PcrA—Pekin silt loam, 0 to 2 percent slopes

Setting

Landform: Stream terraces
Position on the landform: Treads

Map Unit Composition

Pekin and similar soils—90 percent
The somewhat poorly drained Bartle and similar soils, which are on treads—5 percent
The well drained Elkinsville and similar soils, which are on treads—5 percent

Interpretive Groups

Land capability classification: 2s
Prime farmland category: Prime farmland

Properties and Qualities of the Pekin Soil

Parent material: Loess over loamy alluvium
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow to moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Depth and months of the highest perched seasonal high water table: 1.5 feet (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: Medium

Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

PcrB2—Pekin silt loam, 2 to 6 percent slopes, eroded

Setting

Landform: Stream terraces
Position on the landform: Treads

Map Unit Composition

Pekin and similar soils—85 percent
The somewhat poorly drained Bartle and similar soils, which are on treads—10 percent
The well drained Elkinsville and similar soils, which are on risers—5 percent

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland

Properties and Qualities of the Pekin Soil

Parent material: Loess and the underlying loamy alluvium
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow to moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Depth and months of the highest perched seasonal high water table: 1.5 feet (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Slight

PcrC2—Pekin silt loam, 6 to 12 percent slopes, eroded

Setting

Landform: Stream terraces (fig. 9)
Position on the landform: Risers

Map Unit Composition

Pekin and similar soils—72 percent
The severely eroded Pekin and similar soils, which are on risers—14 percent
The well drained Elkinsville and similar soils, which are on risers—5 percent
The strongly sloping Pekin and similar soils, which are on risers—5 percent
The somewhat poorly drained Stendal and similar soils, which are on flood plains—4 percent

Figure 9.—The Pekin soil is on the stream terrace in the background. Stendal soils are on the flood plain in the foreground.

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland

Properties and Qualities of the Pekin Soil

Parent material: Loess and the underlying loamy alluvium
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow to moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Depth and months of the highest perched seasonal high water table: 1.5 feet (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

PhaA—Peoga silt loam, 0 to 1 percent slopes

Setting

Landform: Stream terraces or lake plains
Position on the landform: Treads or summits

Map Unit Composition

Peoga and similar soils—83 percent
Peoga, undrained, and similar soils, which are on treads or summits—10 percent
The somewhat poorly drained Dubois and similar soils, which are on summits—5 percent
The somewhat poorly drained Bartle and similar soils, which are on treads—2 percent

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland where drained (fig. 10)

Properties and Qualities of the Peoga Soil

Parent material: Loess and the underlying loamy alluvium; or loess and the underlying paleosol that formed in loamy lacustrine deposits
Drainage class: Poorly drained
Permeability to a depth of 40 inches: Slow to moderate
Permeability below a depth of 40 inches: Slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Depth and months of the highest perched seasonal high water table: At the surface (January, February, March)
Frequency and most likely period of ponding: Frequent (January, February, March, April, May, December)
Flooding: None
Hydric soil status: Hydric
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Slight
Susceptibility to wind erosion: Slight

Figure 10.—Soybeans in an area of Peoga silt loam, 0 to 1 percent slopes.

PlpAH—Piopolis silty clay loam, 0 to 1 percent slopes, frequently flooded, brief duration

Setting

Landform: Backswamps, flood plains

Map Unit Composition

Piopolis and similar soils—97 percent
The somewhat poorly drained Stendal and similar soils, which are on flood plains—3 percent

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland where drained and either protected from flooding or not frequently flooded during the growing season

Properties and Qualities of the Piopolis Soil

Parent material: Acid silty alluvium
Drainage class: Poorly drained
Permeability to a depth of 40 inches: Slow or moderately slow
Permeability below a depth of 40 inches: Slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest apparent seasonal high water table: At the surface (January, February, March)
Frequency and most likely period of ponding: Frequent (January, February, March, April, May, December)
Frequency and most likely period of flooding: Frequent (January, February, March, April)
Hydric soil status: Hydric
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

PlpAHU—Piopolis silty clay loam, undrained, 0 to 1 percent slopes, frequently flooded, brief duration

Setting

Landform: Backswamps, flood plains

Map Unit Composition

Piopolis, undrained, and similar soils—98 percent
The somewhat poorly drained Stendal, undrained, and similar soils, which are on flood plains—2 percent

Interpretive Groups

Land capability classification: 5w
Prime farmland category: Not prime farmland

Properties and Qualities of the Piopolis Soil

Parent material: Acid silty alluvium
Drainage class: Poorly drained
Permeability to a depth of 40 inches: Slow or moderately slow
Permeability below a depth of 40 inches: Slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest apparent seasonal high water table: At the surface (January, February, March, April, May, June, July, November, December)
Frequency and most likely period of ponding: Frequent (January, February, March, April, May, June, July, December)
Frequency and most likely period of flooding: Frequent (January, February, March, April)
Hydric soil status: Hydric
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Pml—Pits, quarry

Setting

Landform: Hills underlain with limestone

Map Unit Composition

Pits, quarry—100 percent

Interpretive Groups

Land capability classification: None assigned
Prime farmland category: Not prime farmland

General Description

This map unit consists of areas where the surface soil has been removed and limestone bedrock has been extracted for construction material. Most of the area is the actual pit, and some of the area is piles of broken rock or mixed rock and soil material.

RptG—Rohan-Jessietown complex, 25 to 60 percent slopes, rocky

Setting

Landform: Hills underlain with Devonian black shale
Position on the landform: Backslopes

Map Unit Composition

Rohan and similar soils—45 percent
Jessietown and similar soils—36 percent
Rock outcrop escarpments—8 percent
The severely eroded Rohan and similar soils, which are on backslopes—5 percent

The very deep Hickory and similar soils, which are on the upper backslopes—3 percent
The clayey Trappist and similar soils, which are on backslopes—3 percent

Interpretive Groups

Land capability classification: Rohan—7e; Jessietown—7e
Prime farmland category: Not prime farmland

Properties and Qualities of the Rohan Soil

Parent material: Loamy-skeletal residuum and the underlying Devonian black shale bedrock
Drainage class: Well drained
Permeability to a depth of 40 inches: Impermeable to moderate
Permeability below a depth of 40 inches: Impermeable to moderately slow
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Available water capacity: About 1.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: High for steel and concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Jessietown Soil

Parent material: Loess, residuum, and the underlying Devonian black shale bedrock
Drainage class: Well drained
Permeability to a depth of 40 inches: Impermeable to moderate
Permeability below a depth of 40 inches: Impermeable to moderately slow
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Available water capacity: About 5.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 4.0 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

RywB2—Russell silt loam, 2 to 6 percent slopes, eroded

Setting

Landform: Wisconsinan till plains
Position on the landform: Backslopes and shoulders

Map Unit Composition

Russell and similar soils—76 percent
The moderately well drained Williamstown and similar soils, which are on backslopes and shoulders—15 percent
The somewhat poorly drained Fincastle and similar soils, which are on footslopes—5 percent
The severely eroded Russell and similar soils, which are on shoulders—3 percent
The poorly drained Cyclone and similar soils, which are on toeslopes in depressions—1 percent

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland

Properties and Qualities of the Russell Soil

Parent material: Loess over loamy till
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Very slow to moderate
Depth to restrictive feature: 40 to 60 inches to dense material
Available water capacity: About 9.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 3.5 feet (December, January, February, March, April)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

RzfA—Ryker-Muscatatuck silt loams, terrace, 0 to 2 percent slopes

Setting

Landform: Strath terraces
Position on the landform: Treads

Map Unit Composition

Ryker, terrace, and similar soils—52 percent
Muscatatuck, terrace, and similar soils—48 percent

Interpretive Groups

Land capability classification: Ryker—1; Muscatatuck—1
Prime farmland category: Prime farmland

Properties and Qualities of the Ryker Soil

Parent material: Loess over loamy drift over clayey material weathered from limestone bedrock

Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Properties and Qualities of the Muscatatuck Soil

Parent material: Loess over loamy drift over clayey material weathered from limestone bedrock
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Depth and months of the highest perched seasonal high water table: 1.7 feet (January, February, March, April, December)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

RzfB2—Ryker-Muscatatuck silt loams, terrace, 2 to 6 percent slopes, eroded

Setting

Landform: Strath terraces
Position on the landform: Risers

Map Unit Composition

Ryker, terrace, and similar soils—52 percent
Muscatatuck, terrace, and similar soils—40 percent
The deep, well drained Grayford and similar soils, which are on risers—5 percent
The well drained Haymond, depression, and similar soils, which are in sinkholes—3 percent

Interpretive Groups

Land capability classification: Ryker—2e; Muscatatuck—2e
Prime farmland category: Prime farmland

Properties and Qualities of the Ryker Soil

Parent material: Loess over loamy drift over clayey material weathered from limestone bedrock
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Properties and Qualities of the Muscatatuck Soil

Parent material: Loess over loamy drift over clayey material weathered from limestone bedrock
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Depth and months of the highest perched seasonal high water table: 1.7 feet (January, February, March, April, December)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

RzgA—Ryker-Muscatatuck silt loams, karst, nearly level

Setting

Landform: Illinoian till plains, sinkholes (fig. 11)
Position on the landform: Summits

Figure 11.—An area of Ryker-Muscatatuck silt loams, karst, nearly level, on the Illinoian till plain.

Map Unit Composition

Ryker and similar soils—45 percent
Muscatatuck and similar soils—45 percent
The somewhat poorly drained Avonburg and similar soils, which are on summits—7 percent
The well drained Haymond, depression, and similar soils, which are in sinkholes—3 percent

Interpretive Groups

Land capability classification: Ryker—1; Muscatatuck—1
Prime farmland category: Prime farmland

Properties and Qualities of the Ryker Soil

Parent material: Loess over loamy till over clayey material weathered from limestone bedrock
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Properties and Qualities of the Muscatatuck Soil

Parent material: Loess over loamy till over clayey material weathered from limestone bedrock
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 1.7 feet (January, February, March, April, December)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

RzgB2—Ryker-Muscatatuck silt loams, karst, undulating, eroded

Setting

Landform: Illinoian till plains, sinkholes
Position on the landform: Summits, shoulders

Map Unit Composition

Ryker and similar soils—50 percent
Muscatatuck and similar soils—40 percent
The deep, well drained Grayford and similar soils, which are on backslopes—5 percent
The well drained Haymond, depression, and similar soils, which are in sinkholes—5 percent

Interpretive Groups

Land capability classification: Ryker—2e; Muscatatuck—2e
Prime farmland category: Prime farmland

Properties and Qualities of the Ryker Soil

Parent material: Loess over loamy till over clayey material weathered from limestone bedrock
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric

Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Properties and Qualities of the Muscatatuck Soil

Parent material: Loess over loamy till over clayey material weathered from limestone bedrock
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 1.7 feet (January, February, March, April, December)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

RzgC2—Ryker-Muscatatuck silt loams, karst, rolling, eroded

Setting

Landform: Illinoian till plains, sinkholes
Position on the landform: Shoulders, backslopes

Map Unit Composition

Ryker and similar soils—50 percent
Muscatatuck and similar soils—35 percent
The deep, well drained Grayford and similar soils, which are on backslopes—10 percent
The well drained Haymond, depression, and similar soils, which are in sinkholes—5 percent

Interpretive Groups

Land capability classification: Ryker—3e; Muscatatuck—3e
Prime farmland category: Not prime farmland

Properties and Qualities of the Ryker Soil

Parent material: Loess over loamy till over clayey material weathered from limestone bedrock
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate

Permeability below a depth of 40 inches: Moderately slow to rapid
Depth to restrictive feature: 60 to 120 inches to lithic bedrock
Available water capacity: About 10.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Muscatatuck Soil

Parent material: Loess over loamy till over clayey material weathered from limestone bedrock
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 1.7 feet (January, February, March, April, December)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

RzhC3—Ryker-Grayford-Muscatatuck complex, karst, rolling, severely eroded

Setting

Landform: Illinoian till plains, sinkholes
Position on the landform: Shoulders, backslopes

Map Unit Composition

Ryker, severely eroded, and similar soils—37 percent
Grayford, severely eroded, and similar soils—30 percent
Muscatatuck, severely eroded, and similar soils—28 percent
The moderately deep, well drained Caneyville, severely eroded, and similar soils, which are on backslopes—2 percent
The well drained Crider, severely eroded, and similar soils, which are on shoulders and backslopes—2 percent

The well drained Haymond, depression, and similar soils, which are in sinkholes—1 percent

Interpretive Groups

Land capability classification: Ryker—4e; Grayford—4e; Muscatatuck—4e
Prime farmland category: Not prime farmland

Properties and Qualities of the Ryker Soil

Parent material: Loess over loamy till over clayey material weathered from limestone bedrock
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderately slow to rapid
Depth to restrictive feature: 60 to 120 inches to lithic bedrock
Available water capacity: About 9.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: High
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Grayford Soil

Parent material: Loess over loamy till over clayey material weathered from limestone bedrock
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderately slow to rapid
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Available water capacity: About 7.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: High
Depth to seasonal high water table: More than 4.5 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Muscatatuck Soil

Parent material: Loess over loamy till over clayey material weathered from limestone bedrock
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate

Permeability below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.0 percent
Shrink-swell potential: High
Depth and months of the highest perched seasonal high water table: 1.7 feet (January, February, March, April, December)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

SceA—Scottsburg silt loam, 0 to 2 percent slopes

Setting

Landform: Strath terraces underlain with Devonian black shale
Position on the landform: Treads

Map Unit Composition

Scottsburg and similar soils—95 percent
The somewhat poorly drained Whitcomb and similar soils, which are on treads—5 percent

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland

Properties and Qualities of the Scottsburg Soil

Parent material: Loess over loamy slope alluvium over clayey material weathered from Devonian black shale bedrock
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Impermeable to moderately slow
Depth to restrictive feature: 60 to 72 inches to paralithic bedrock; 60 to 80 inches to lithic bedrock
Available water capacity: About 9.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 1.5 feet (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

ScfB2—Scottsburg-Deputy silt loams, 2 to 6 percent slopes, eroded

Setting

Landform: Strath terraces underlain with Devonian black shale
Position on the landform: Treads

Map Unit Composition

Scottsburg and similar soils—50 percent
Deputy and similar soils—40 percent
The moderately well drained Jennings and similar soils, which have a fragipan and are on the lower backslopes of Illinoian till plains—5 percent
The somewhat poorly drained Whitcomb and similar soils, which are on treads—4 percent
The well drained Trappist and similar soils, which are on risers—1 percent

Interpretive Groups

Land capability classification: Scottsburg—2e; Deputy—2e
Prime farmland category: Prime farmland

Properties and Qualities of the Scottsburg Soil

Parent material: Loess over loamy slope alluvium over clayey material weathered from Devonian black shale bedrock
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Impermeable to moderately slow
Depth to restrictive feature: 60 to 72 inches to paralithic bedrock; 60 to 80 inches to lithic bedrock
Available water capacity: About 9.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 1.5 feet (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Properties and Qualities of the Deputy Soil

Parent material: Loess and clayey material weathered from Devonian black shale bedrock
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Slow to moderate
Permeability below a depth of 40 inches: Impermeable to moderately slow
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock; 60 to 80 inches to lithic bedrock
Available water capacity: About 8.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate

Depth and months of the highest perched seasonal high water table: 1.5 feet (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

SifE—Senachwine loam, 18 to 25 percent slopes

Setting

Landform: Wisconsinan till plains
Position on the landform: Backslopes

Map Unit Composition

Senachwine and similar soils—90 percent
The severely eroded Senachwine and similar soils, which are on backslopes—5 percent
The somewhat poorly drained Shoals and similar soils, which are in long, narrow channels on flood plains—5 percent

Interpretive Groups

Land capability classification: 6e
Prime farmland category: Not prime farmland

Properties and Qualities of the Senachwine Soil

Parent material: Loamy till
Drainage class: Well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 6.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

SifG—Senachwine loam, 25 to 70 percent slopes

Setting

Landform: Wisconsinan till plains
Position on the landform: Backslopes

Map Unit Composition

Senachwine and similar soils—90 percent
The severely eroded Senachwine and similar soils, which are on backslopes—5 percent
The somewhat poorly drained Shoals and similar soils, which are in long, narrow channels on flood plains—5 percent

Interpretive Groups

Land capability classification: 7e
Prime farmland category: Not prime farmland

Properties and Qualities of the Senachwine Soil

Parent material: Loamy till
Drainage class: Well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 6.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

SldAW—Shoals silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration

Setting

Landform: Channels and flood plains

Map Unit Composition

Shoals and similar soils—90 percent
The very poorly drained Sloan and similar soils, which are in backswamps or meander scars—10 percent

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained

Properties and Qualities of the Shoals Soil

Parent material: Loamy alluvium
Drainage class: Somewhat poorly drained
Permeability to a depth of 40 inches: Moderate or moderately rapid
Permeability below a depth of 40 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.0 inches to a depth of 60 inches

Content of organic matter in the surface layer: 2.0 to 4.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest apparent seasonal high water table: 0.5 foot (January, February, March)
Ponding: None
Frequency and most likely period of flooding: Occasional (January, February, March, April, May)
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

StaAH—Steff silt loam, 0 to 2 percent slopes, frequently flooded, brief duration

Setting

Landform: Flood plains

Map Unit Composition

Steff and similar soils—88 percent
The somewhat poorly drained Stendal and similar soils, which are on flood plains—10 percent
The well drained Haymond and similar soils, which are on flood plains—2 percent

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where protected from flooding or not frequently flooded during the growing season

Properties and Qualities of the Steff Soil

Parent material: Acid silty alluvium
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Moderate or moderately rapid
Permeability below a depth of 40 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Depth and months of the highest apparent seasonal high water table: 1.5 feet (January, February, March)
Ponding: None
Frequency and most likely period of flooding: Frequent (January, February, March, April)
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

StaAQ—Steff silt loam, 0 to 2 percent slopes, rarely flooded

Setting

Landform: Flood-plain steps

Map Unit Composition

Steff and similar soils—86 percent
The somewhat poorly drained Stendal and similar soils, which are on flood-plain steps—10 percent
The well drained Cuba and similar soils, which are on flood-plain steps—2 percent
The occasionally flooded Steff and similar soils, which are on flood plains—2 percent

Interpretive Groups

Land capability classification: 1
Prime farmland category: Prime farmland

Properties and Qualities of the Steff Soil

Parent material: Acid silty alluvium
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Moderate or moderately rapid
Permeability below a depth of 40 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Depth and months of the highest apparent seasonal high water table: 1.5 feet (January, February, March)
Ponding: None
Frequency and most likely period of flooding: Rare (January, February, March, April, May, June)
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Slight
Susceptibility to wind erosion: Slight

StdAH—Stendal silt loam, 0 to 2 percent slopes, frequently flooded, brief duration

Setting

Landform: Flood plains

Map Unit Composition

Stendal and similar soils—93 percent
The moderately well drained Steff and similar soils, which are on flood-plain steps—4 percent
The poorly drained Piopolis and similar soils, which are in backswamps—3 percent

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained and either protected from flooding or not frequently flooded during the growing season

Properties and Qualities of the Stendal Soil

Parent material: Acid silty alluvium
Drainage class: Somewhat poorly drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Depth and months of the highest apparent seasonal high water table: 0.5 foot (January, February, March, April, December)
Ponding: None
Frequency and most likely period of flooding: Frequent (January, February, March, April)
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

StdAQ—Stendal silt loam, 0 to 2 percent slopes, rarely flooded

Setting

Landform: Flood-plain steps

Map Unit Composition

Stendal and similar soils—88 percent
The poorly drained Bonnie and similar soils, which are in backswamps—5 percent
The moderately well drained Steff and similar soils, which are on flood-plain steps—4 percent
The occasionally flooded Stendal and similar soils, which are on flood plains—3 percent

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained

Properties and Qualities of the Stendal Soil

Parent material: Acid silty alluvium
Drainage class: Somewhat poorly drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Depth and months of the highest apparent seasonal high water table: 0.5 foot (January, February, March)
Ponding: None
Frequency and most likely period of flooding: Rare (January, February, March, April, May, June)

Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Slight
Susceptibility to wind erosion: Slight

SuoAH—Stonelick fine sandy loam, 0 to 2 percent slopes, frequently flooded, brief duration

Setting

Landform: Flood plains

Map Unit Composition

Stonelick and similar soils—100 percent

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland where protected from flooding or not frequently flooded during the growing season

Properties and Qualities of the Stonelick Soil

Parent material: Coarse-loamy alluvium
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderately rapid
Permeability below a depth of 40 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Frequency and most likely period of flooding: Frequent (January, February, March, April, May, June)
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

ThbD4—Trappist silty clay loam, 6 to 18 percent slopes, very severely eroded

Setting

Landform: Hills and strath terraces underlain with Devonian black shale
Position on the landform: Backslopes and shoulders

Map Unit Composition

Trappist, very severely eroded, and similar soils—73 percent
The moderately well drained Deputy, very severely eroded, and similar soils, which are on backslopes and shoulders—12 percent

The moderately eroded Trappist and similar soils, which are on backslopes and shoulders—8 percent
The shallow, well drained Rohan and similar soils, which are on backslopes—7 percent

Interpretive Groups

Land capability classification: 6e
Prime farmland category: Not prime farmland

Properties and Qualities of the Trappist Soil

Parent material: Loess, clayey residuum, and the underlying Devonian black shale bedrock
Drainage class: Well drained
Permeability to a depth of 40 inches: Impermeable to moderate
Permeability below a depth of 40 inches: Impermeable to moderately slow
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Available water capacity: About 3.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.0 to 1.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material, and small gullies and rills are typical.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

ThcD3—Trappist-Rohan complex, 12 to 25 percent slopes, severely eroded

Setting

Landform: Hills and strath terraces underlain with Devonian black shale
Position on the landform: Backslopes

Map Unit Composition

Trappist and similar soils—44 percent
Rohan and similar soils—29 percent
The slightly eroded Trappist and similar soils, which are on backslopes—10 percent
The moderately well drained Deputy and similar soils, which are on backslopes and shoulders—5 percent
The moderately eroded Rohan and similar soils, which are on backslopes—5 percent
The moderately eroded Trappist and similar soils, which are on moderately sloping shoulders—5 percent
The somewhat poorly drained Stendal and similar soils, which are on flood plains—2 percent

Interpretive Groups

Land capability classification: Trappist—6e; Rohan—7e
Prime farmland category: Not prime farmland

Properties and Qualities of the Trappist Soil

Parent material: Loess, clayey residuum, and the underlying Devonian black shale bedrock
Drainage class: Well drained
Permeability to a depth of 40 inches: Impermeable to moderate
Permeability below a depth of 40 inches: Impermeable to moderately slow
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Available water capacity: About 4.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Rohan Soil

Parent material: Loamy-skeletal residuum and the underlying Devonian black shale bedrock
Drainage class: Well drained
Permeability to a depth of 40 inches: Impermeable to moderate
Permeability below a depth of 40 inches: Impermeable to moderately slow
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Available water capacity: About 1.0 inch to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: Moderate
Hazard of corrosion: High for steel and concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

ThdD2—Trappist-Rohan silt loams, 12 to 25 percent slopes, eroded

Setting

Landform: Hills and strath terraces underlain with Devonian black shale
Position on the landform: Backslopes

Map Unit Composition

Trappist and similar soils—49 percent
Rohan and similar soils—33 percent

The moderately well drained Deputy and similar soils, which are on backslopes—10 percent
The severely eroded Trappist and similar soils, which are on backslopes—4 percent
The severely eroded Rohan and similar soils, which are on backslopes—2 percent
The somewhat poorly drained Stendal and similar soils, which are in narrow drainageways—2 percent

Interpretive Groups

Land capability classification: Trappist—4e; Rohan—7e
Prime farmland category: Not prime farmland

Properties and Qualities of the Trappist Soil

Parent material: Loess, clayey residuum, and the underlying Devonian black shale bedrock
Drainage class: Well drained
Permeability to a depth of 40 inches: Impermeable to moderate
Permeability below a depth of 40 inches: Impermeable to moderately slow
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Available water capacity: About 5.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 4.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 2.5 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Rohan Soil

Parent material: Loamy-skeletal residuum and the underlying Devonian black shale bedrock
Drainage class: Well drained
Permeability to a depth of 40 inches: Impermeable to moderate
Permeability below a depth of 40 inches: Impermeable to moderately slow
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Available water capacity: About 1.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 4.0 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 1.2 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: High for steel and concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Uby—Udorthents, loamy

Map Unit Composition

Udorthents, loamy, and similar soils—100 percent

Interpretive Groups

Land capability classification: None assigned
Prime farmland category: Not prime farmland

General Description

Generally, this map unit consists of areas of mixed loamy soil materials. These are areas from which fill material has been borrowed or areas of the fill material itself.

UdaB—Urban land-Deputy-Scottsburg complex, 2 to 15 percent slopes

Setting

Landform: Urban areas and strath terraces underlain with Devonian black shale
Position on the landform: Treads and risers

Map Unit Composition

Urban land—46 percent
Deputy and similar soils—16 percent
Scottsburg and similar soils—16 percent
Udarents and similar disturbed soils, which are on treads and risers—14 percent
The moderately well drained Jennings and similar soils, which have a fragipan and are on backslopes of Illinoian till plains—5 percent
The moderately well drained Blocher and similar soils, which formed partly in loamy till and are on backslopes of Illinoian till plains—3 percent

Interpretive Groups

Land capability classification: Urban land—8; Deputy—3e; Scottsburg—2e
Prime farmland category: Not prime farmland

General Description of the Urban Land

Urban land consists of areas that are covered by paved or graveled roads, parking lots, walkways, residential and commercial buildings, and cemetery structures.

Properties and Qualities of the Deputy Soil

Parent material: Loess and clayey material weathered from Devonian black shale bedrock
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Slow to moderate
Permeability below a depth of 40 inches: Impermeable to moderately slow
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock; 60 to 80 inches to lithic bedrock
Available water capacity: About 8.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 1.5 feet (January, February, March)
Ponding: None

Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Scottsburg Soil

Parent material: Loess over loamy slope alluvium over clayey material weathered from Devonian black shale bedrock
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Impermeable to moderately slow
Depth to restrictive feature: 60 to 72 inches to paralithic bedrock; 60 to 80 inches to lithic bedrock
Available water capacity: About 9.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 1.5 feet (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

UfcB—Urban land-Cincinnati-Nabb complex, 2 to 12 percent slopes

Setting

Landform: Urban areas and Illinoian till plains

Map Unit Composition

Urban land—49 percent
Cincinnati and similar soils—16 percent
Nabb and similar soils—16 percent
Udarents and similar disturbed soils, which are on summits—14 percent
The moderately well drained Blocher and similar soils, which do not have a fragipan and are on backslopes and shoulders—3 percent
The well drained Bonnell and similar soils, which are on backslopes—2 percent

Interpretive Groups

Land capability classification: Urban land—8; Cincinnati—3e; Nabb—2e
Prime farmland category: Not prime farmland

General Description of the Urban Land

Urban land consists of areas that are covered by paved or graveled roads, parking lots, walkways, residential and commercial buildings, and cemetery structures.

Properties and Qualities of the Cincinnati Soil

Parent material: Loess and the underlying paleosol that formed in loamy till
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: 20 to 36 inches to a fragipan
Available water capacity: About 7.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 2.0 feet (December, January, February, March, April)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Nabb Soil

Parent material: Loess and the underlying paleosol that formed in loamy till
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: 24 to 40 inches to a fragipan
Available water capacity: About 8.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 1.5 feet (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

UfdA—Urban land-Cobbsfork-Avonburg complex, 0 to 2 percent slopes

Setting

Landform: Urban areas and Illinoian till plains

Map Unit Composition

Urban land—57 percent
Cobbsfork and similar soils—17 percent

Avonburg and similar soils—16 percent
Udarents and similar disturbed soils, which are on summits—10 percent

Interpretive Groups

Land capability classification: Urban land—8; Cobbsfork—3w; Avonburg—2w
Prime farmland category: Not prime farmland

General Description of the Urban Land

Urban land consists of areas that are covered by paved or graveled roads, parking lots, walkways, residential and commercial buildings, and cemetery structures.

Properties and Qualities of the Cobbsfork Soil

Parent material: Loess and the underlying paleosol that formed in loamy till
Drainage class: Poorly drained
Permeability to a depth of 40 inches: Slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: At the surface (January, February, March)
Frequency and most likely period of ponding: Frequent (December, January, February, March, April, May)
Flooding: None
Hydric soil status: Hydric
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Properties and Qualities of the Avonburg Soil

Parent material: Loess and the underlying paleosol that formed in loamy till
Drainage class: Somewhat poorly drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: 40 to 60 inches to a fragipan
Available water capacity: About 9.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 0.5 foot (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

UsI—Udorthents, rubbish

Setting

Landform: Sanitary landfills

Map Unit Composition

Udorthents, rubbish—100 percent

Interpretive Groups

Land capability classification: None assigned
Prime farmland category: Not prime farmland

General Description

Generally, this map unit consists of areas of mixed loamy soil materials. These areas have been used to cover mixtures of household, business, and industrial rubbish, including glass and metals, organic material (such as paper and wood), plastics, synthetics, and other unwanted items.

W—Water

General Description

This map unit consists of areas about 2 acres or larger that are covered with water to some extent for the entire year.

WaaAH—Wakeland silt loam, 0 to 2 percent slopes, frequently flooded, brief duration

Setting

Landform: Flood plains

Map Unit Composition

Wakeland and similar soils—85 percent
The poorly drained Birds and similar soils, which are in backswamps—10 percent
The moderately well drained Wilbur and similar soils, which are on flood plains and flood-plain steps—5 percent

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained and either protected from flooding or not frequently flooded during the growing season

Properties and Qualities of the Wakeland Soil

Parent material: Silty alluvium
Drainage class: Somewhat poorly drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low

Depth and months of the highest apparent seasonal high water table: 0.5 foot (January, February, March)
Ponding: None
Frequency and most likely period of flooding: Frequent (January, February, March, April)
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

WaaAW—Wakeland silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration

Setting

Landform: Flood plains and flood-plain steps

Map Unit Composition

Wakeland and similar soils—82 percent
The poorly drained Birds and similar soils, which are in backswamps—10 percent
The moderately well drained Wilbur and similar soils, which are on flood plains and flood-plain steps—5 percent
The frequently flooded Wakeland and similar soils, which are on flood plains—3 percent

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained

Properties and Qualities of the Wakeland Soil

Parent material: Silty alluvium
Drainage class: Somewhat poorly drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Depth and months of the highest apparent seasonal high water table: 0.5 foot (January, February, March)
Ponding: None
Frequency and most likely period of flooding: Occasional (January, February, March, April, May, June)
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Slight
Susceptibility to wind erosion: Slight

WnmA—Whitcomb silt loam, 0 to 2 percent slopes

Setting

Landform: Strath terraces underlain with Devonian black shale
Position on the landform: Treads

Map Unit Composition

Whitcomb and similar soils—87 percent
The moderately well drained Scottsburg and similar soils, which are on treads—10 percent
The very deep, poorly drained, silty Fragic Epiaquults and similar soils, which are on treads—3 percent

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained

Properties and Qualities of the Whitcomb Soil

Parent material: Loess over loamy slope alluvium over clayey material weathered from Devonian black shale bedrock
Drainage class: Somewhat poorly drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Impermeable to moderately slow
Depth to restrictive feature: 60 to 80 inches to lithic bedrock
Available water capacity: About 9.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 0.5 foot (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

WokAH—Wilbur silt loam, 0 to 2 percent slopes, frequently flooded, brief duration

Setting

Landform: Flood plains

Map Unit Composition

Wilbur and similar soils—88 percent
The somewhat poorly drained Wakeland and similar soils, which are on flood plains and flood-plain steps—10 percent
The well drained Haymond and similar soils, which are on flood plains and natural levees—2 percent

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where protected from flooding or not frequently flooded during the growing season

Properties and Qualities of the Wilbur Soil

Parent material: Silty alluvium
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Depth and months of the highest apparent seasonal high water table: 1.5 feet (January, February, March)
Ponding: None
Frequency and most likely period of flooding: Frequent (January, February, March, April)
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and low for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

WokAW—Wilbur silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration

Setting

Landform: Flood plains and flood-plain steps

Map Unit Composition

Wilbur and similar soils—83 percent
The somewhat poorly drained Wakeland and similar soils, which are on flood plains and flood-plain steps—10 percent
The frequently flooded Wilbur and similar soils, which are on flood plains—5 percent
The well drained Haymond and similar soils, which are on flood plains and natural levees—2 percent

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland

Properties and Qualities of the Wilbur Soil

Parent material: Silty alluvium
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.9 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Depth and months of the highest apparent seasonal high water table: 1.5 feet (January, February, March)
Ponding: None
Frequency and most likely period of flooding: Occasional (January, February, March, April, May, June)
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Slight
Susceptibility to wind erosion: Slight

WooAQ—Wilhite silt loam, overwash, 0 to 1 percent slopes, rarely flooded

Setting

Landform: Backswamps, flood plains

Map Unit Composition

Wilhite and similar soils—96 percent
The silty, poorly drained Bonnie and similar soils, which are in backswamps—4 percent

Interpretive Groups

Land capability classification: 4w
Prime farmland category: Prime farmland where drained

Properties and Qualities of the Wilhite Soil

Parent material: Silty alluvium over clayey alluvium
Drainage class: Poorly drained
Permeability to a depth of 40 inches: Slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Depth and months of the highest apparent seasonal high water table: At the surface (January, February, March)
Frequency and most likely period of ponding: Occasional (January, February, March, April, May, December)
Frequency and most likely period of flooding: Rare (all year)
Hydric soil status: Hydric
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

WprAV—Wirt loam, 0 to 2 percent slopes, frequently flooded, very brief duration

Setting

Landform: Flood plains

Map Unit Composition

Wirt and similar soils—83 percent
The silty, well drained Haymond and similar soils, which are on natural levees, flood plains, and flood-plain steps—10 percent
The occasionally flooded Wirt and similar soils, which are on flood plains—5 percent
The moderately well drained Oldenburg and similar soils, which are on flood plains and flood-plain steps—2 percent

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland

Properties and Qualities of the Wirt Soil

Parent material: Loamy alluvium
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate or moderately rapid
Permeability below a depth of 40 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Frequency and most likely period of flooding: Frequent (January, February, March, April)
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and moderate for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

WprAW—Wirt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration

Setting

Landform: Flood plains and flood-plain steps

Map Unit Composition

Wirt and similar soils—83 percent
The silty, well drained Haymond and similar soils, which are on natural levees, flood plains, and flood-plain steps—10 percent
The frequently flooded Wirt and similar soils, which are on flood plains—5 percent
The moderately well drained Oldenburg and similar soils, which are on flood plains and flood-plain steps—2 percent

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland

Properties and Qualities of the Wirt Soil

Parent material: Loamy alluvium
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate or moderately rapid
Permeability below a depth of 40 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Frequency and most likely period of flooding: Occasional (January, February, March, April, May, June)
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and moderate for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

WpuAH—Wirt silt loam, 0 to 2 percent slopes, frequently flooded, brief duration

Setting

Landform: Flood plains

Map Unit Composition

Wirt and similar soils—88 percent
The silty, well drained Haymond and similar soils, which are on natural levees of flood plains—10 percent
The moderately well drained Oldenburg and similar soils, which are on flood plains—2 percent

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where protected from flooding or not frequently flooded during the growing season

Properties and Qualities of the Wirt Soil

Parent material: Loamy alluvium
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate or moderately rapid
Permeability below a depth of 40 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent

Shrink-swell potential: Low
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Frequency and most likely period of flooding: Frequent (January, February, March, April, May, June)
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Low for steel and moderate for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

WufB2—Williamstown silt loam, 2 to 6 percent slopes, eroded

Setting

Landform: Wisconsinan till plains
Position on the landform: Shoulders and backslopes

Map Unit Composition

Williamstown and similar soils—82 percent
The somewhat poorly drained Crosby and similar soils, which are on footslopes—15 percent
The poorly drained Cyclone and similar soils, which are on toeslopes in depressions—3 percent

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland

Properties and Qualities of the Williamstown Soil

Parent material: Loess over loamy till
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: 20 to 40 inches to dense material
Available water capacity: About 6.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 1.5 feet (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: High
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

XabB2—Xenia silt loam, 2 to 6 percent slopes, eroded

Setting

Landform: Wisconsinan till plains
Position on the landform: Shoulders and backslopes

Map Unit Composition

Xenia and similar soils—95 percent
The severely eroded Xenia and similar soils, which are on backslopes and shoulders—4 percent
The poorly drained Cyclone and similar soils, which are on toeslopes in depressions—1 percent

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland

Properties and Qualities of the Xenia Soil

Parent material: Loess over loamy till
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Very slow to moderate
Depth to restrictive feature: 40 to 60 inches to dense material
Available water capacity: About 10.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth and months of the highest perched seasonal high water table: 1.5 feet (January, December)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

ZnsB—Zenas silt loam, karst, undulating

Setting

Landform: Hills underlain with limestone bedrock; sinkholes
Position on the landform: Summits and shoulders

Map Unit Composition

Zenas and similar soils—80 percent
The moderately deep, well drained Caneyville and similar soils, which are on shoulders and backslopes—10 percent
The very deep, well drained Crider and similar soils, which are on shoulders and backslopes—10 percent

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland

Properties and Qualities of the Zenas Soil

Parent material: Loess over clayey material weathered from limestone
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderately slow to rapid
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Available water capacity: About 7.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Very high
Depth to seasonal high water table: More than 4.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Use and Management of the Soils

This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help to prevent soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as forestland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; and as wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of gravel, sand, reclamation material, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

Interpretive Ratings

The interpretive tables in this survey rate the soils in the survey area for various uses. Many of the tables identify the limitations that affect specified uses and indicate the severity of those limitations. The ratings in these tables are both verbal and numerical.

Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited by all of the soil features that affect a specified use or in terms that indicate the suitability of the soils for the use. Thus, the tables may show limitation classes or suitability classes. Terms for the limitation classes are *not limited, somewhat limited,* and *very limited*. The suitability ratings are expressed as *well suited, moderately suited, poorly suited,* and *unsuited* or as *good, fair,* and *poor*.

Numerical Ratings

Numerical ratings in the tables indicate the relative severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate

gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation. The limitations appear in order from the most limiting to the least limiting. Thus, if more than one limitation is identified, the most severe limitation is listed first and the least severe one is listed last.

Crops and Pasture

Jenny Vogel, district conservationist, Natural Resources Conservation Service, helped prepare this section.

General management needed for crops and pasture is suggested in this section. The crops or pasture plants best suited to the soils, including some not commonly grown in the survey area, are identified; the system of land capability classification used by the Natural Resources Conservation Service is explained; the estimated yields of the main crops and hay and pasture plants are listed for each soil; and prime farmland is described.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil under the heading “Detailed Soil Map Units.” Specific information can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

In 2009, about 87,200 acres in Jennings County, or about 36 percent of the total acreage, was used for crops, mainly corn, soybeans, and winter wheat, according to the Jennings County Soil and Water Conservation District. About 16,000 acres was used for hay and pasture, which includes hayland in rotation with other crops.

The potential of the soils in Jennings County for increased production of food crops is low. A small percentage of the acreage that is currently used as woodland or pasture could be converted to cropland. In addition to the reserve productive capacity represented by this land, food production can also be increased considerably by extending the latest crop production technology to all of the cropland in the county. This soil survey can greatly facilitate the application of such technology.

The paragraphs that follow describe the main management concerns affecting the use of the soils in the county for crops and pasture. These concerns are water erosion, wetness, surface cloddiness, and fertility.

Water erosion is a hazard in areas where the slope is more than about 2 percent. Loss of the surface layer through erosion reduces productivity as fertilizer, pesticides, herbicides, and organic matter are removed from the surface layer. The quality of some soils, such as Blocher, Bonnell, Caneyville, Cincinnati, Deputy, Grayford, Hickory, Jennings, Medora, Miami, Muscatatuck, Otwell, Rohan, Ryker, and Trappist soils, is reduced as part of the more clayey subsoil is incorporated into the surface layer. Therefore, seedbed preparation becomes more difficult and seed germination is hindered. Loss of the surface layer is especially damaging to soils that have a fragipan or fragic soil properties in the subsoil or have bedrock within a depth of 60 inches. The root zone in these soils consists mainly of the part of the profile above the fragipan or bedrock. As the surface layer is lost, the thickness of the root zone and the available water capacity are reduced. Avonburg, Bartle, Cincinnati, Cobbsfork, Dubois, Haubstadt, Jennings, Medora, Muscatatuck, Nabb, Otwell, Pekin, Peoga, Scottsburg, and Whitcomb soils have a fragipan or fragic soil properties. Caneyville, Deputy, Grayford, Jessietown, Rohan, Trappist, and Zenas soils have bedrock within a depth of 60 inches.

Erosion also results in the sedimentation and pollution of ditches, lakes, and streams. Controlling erosion minimizes sedimentation and pollution and improves water quality for fish and wildlife, for municipal use, and for recreational uses.

Planting cover crops helps to control erosion in the more sloping areas. Cover crops are especially important after harvesting soybeans, corn for silage, and tobacco.

Tillage methods that leave at least 50 percent of the surface covered with crop residue can protect most of the sloping soils from unacceptable levels of erosion during winter and early spring.

A conservation tillage system helps to hold soil losses to an acceptable level on most of the sloping soils (fig. 12). If row crops are grown year after year on sloping soils, soil losses generally are high unless a conservation tillage system is applied.

No-till and strip-plant cropping systems are effective in minimizing soil loss on the sloping soils used for corn or soybeans. These conservation tillage systems can be adapted to many of the soils in the county that are susceptible to erosion. When no-till and strip-till are used in areas that have a thick vegetative cover or protective amounts of crop residue, soil moisture evaporates at a slower rate and the weed population is greatly reduced. Blocher, Caneyville, Cincinnati, Deputy, Elkinsville, Grayford, Haubstadt, Millstone, Muscatatuck, Nabb, Otwell, Ryker, Scottsburg, Trappist, and Zenas soils are examples of sloping soils that are suitable for no-till and strip-till.

Contour farming can be used in several areas of the county. In areas where slopes are short and irregular, however, this practice is difficult to manage. Other types of conservation measures may be more suitable.

Grassed waterways are needed to protect the channels that drain a watershed (fig. 13). Subsurface drains are needed in areas where wetness or seepage is a problem in the waterways.

Grade-stabilization structures are needed in many areas of the county where the outlets of drainageways have unstable overfalls that can be subject to severe gully erosion. These structures stabilize the overfall in the drainageways and minimize gully erosion.

Water- and sediment-control basins are effective in reducing the rate of runoff in drainageways. They are most effective where subsurface tile can be installed as an outlet and in areas that have slopes of about 8 percent or less. Avonburg, Bartle, Dubois, Haubstadt, Nabb, Scottsburg, and Whitcomb soils are examples of soils on which this practice is suitable.

Figure 12.—A conservation tillage system on the Illinoian till plain.

Figure 13.—A newly constructed grassed waterway and grade-stabilization structure.

Information about the type and design of erosion-control practices that are best suited to each kind of soil is available at the local office of the Natural Resources Conservation Service.

Wetness is a management concern affecting the cropland and pasture in the county. On most of the naturally wet, poorly drained or very poorly drained Birds, Bonnie, Cobbsfork, Cyclone, Peoga, Piopolis, and Wilhite soils, production of the crops commonly grown in the county is generally not practical unless a drainage system is installed. In undrained areas of the somewhat poorly drained Avonburg, Bartle, Dubois, Stendal, Wakeland, and Whitcomb soils, wetness significantly damages crops in most years.

Various land use regulations of Federal, State, and local governments may impose special restrictions on the use of soils. An example is the protection of wetlands. Statements made in this section about wetness are intended to help the land user identify and reduce the effects of management concerns related to wetness. The landowner or user is responsible for identifying and complying with existing laws and regulations.

The design of both surface and subsurface drainage systems varies with the kind of soil. A combination of surface and subsurface drains is needed on some soils that are intensively row cropped. Subsurface drains should be more closely spaced in slowly permeable or very slowly permeable soils than in more permeable soils. Filtering material is generally needed in subsurface drains in soils that have minimum grades and a high content of silt. Examples of these soils are Birds, Bonnie, Cobbsfork, Peoga, Piopolis, Stendal, and Wakeland soils. Finding adequate outlets for subsurface drainage systems is difficult in some areas of Birds, Bonnie, Cobbsfork, Peoga, Piopolis, and Wilhite soils.

More information about the design of drainage systems for each kind of soil is in the Technical Guide, which is available in local offices of the Natural Resources Conservation Service.

Soil structure is an important factor affecting the germination of seeds and the infiltration of water into the soil. Soils that have good structure are granular and porous. Many of the soils used for row crops in the county have a surface layer of silt loam that has a moderate to low content of organic matter. In areas where little or no crop residue is left on the surface, a hard crust forms after periods of intensive rainfall. This crust reduces the infiltration rate, increases the runoff rate, and inhibits plant emergence. Regular additions of crop residue, cover crops, manure, and other organic material improve soil structure and help to minimize crusting. Intensive tillage during crop production adversely affects the content of organic matter and overall soil quality.

Many severely eroded areas of Bonnell, Deputy, Hickory, Miami, Rohan, and Trappist soils and areas of Piopolis soils have a moderately fine textured surface layer. Cloddiness is a problem in areas of all of these soils. If the soils are tilled when too wet, the surface layer becomes very cloddy when it dries and cannot be easily worked. As a result, preparing a good seedbed is very difficult. Increasing the content of organic matter by using high-residue row crops, cover crops, or rotations with hay and pasture, along with conservation tillage, can improve conditions in areas of these soils over time.

Many of the soils in the county have a silty surface layer that is easily compacted. Tilling or grazing when the soils are wet causes surface compaction, which restricts penetration by tillage equipment and plant roots and limits plant growth.

Soil fertility is mainly affected by reaction, by the content of plant nutrients, and by the content of organic matter. Most of the soils on till plains, unglaciated hills, and stream terraces in the county have low natural fertility. They typically are strongly acid or very strongly acid in areas that have not been limed. Most of the soils on flood plains along the Muscatatuck River, Vernon Fork, Sand Creek, and Graham Creek range from neutral to moderately acid. Some soils on flood plains along the lower Muscatatuck River and Vernon Fork range from neutral to very strongly acid. These soils are typically farther from the stream channel than the less acidic soils and are in slightly higher positions on the landform. Soils that are closer to the stream channel typically range from neutral to moderately acid.

On soils that have a pH level below about 6.4, applications of ground limestone are needed to raise the pH level sufficiently for the best utilization of plant nutrients by cultivated crops, such as corn and soybeans, and thus for optimum yields. In areas of these soils, ground limestone is also needed for hay and pasture plants, such as alfalfa and red clover. The supply of available phosphorus and potassium is generally below the level needed for good plant growth in most of the soils in the county that have never had applications of fertilizer. On all soils, additions of lime and fertilizer should be based on the results of soil tests, the needs of the crop, and the desired level of yields. The Cooperative Extension Service can help in determining the kinds and amounts of fertilizer and lime to be applied (Adams, 1984; Khasawneh and others, 1980; Munson, 1985; Stevenson, 1982; Walsh and Beaton, 1973).

Pasture plants commonly grown in the county are mixtures of tall fescue, orchardgrass, timothy, alfalfa, and red clover. Other pasture plants are bluegrass, ladino clover, redtop, alsike clover, lespedeza, and sweetclover. Most of the soils in the county are well suited to grasses, such as tall fescue, timothy, and orchardgrass, and to legumes, such as red clover, ladino clover, alfalfa, and lespedeza. Legumes grow poorly in soils that are poorly drained or very poorly drained, such as Birds, Cobbsfork, Peoga, and Piopolis soils. The growth of most deep-rooted legumes, such as alfalfa and sweetclover, is significantly restricted in soils that have a fragipan or fragic soil properties, such as Avonburg, Bartle, Cincinnati, Cobbsfork, Dubois, Haubstadt, Jennings, Medora, Muscatatuck, Nabb, Pekin, Peoga, Otwell, Scottsburg, and Whitcomb soils.

Poorly drained and very poorly drained soils, such as Birds, Bonnie, Cobbsfork, Cyclone, Peoga, Piopolis, and Wilhite soils, are well suited to water-tolerant grasses. Well drained soils, such as Elkinsville, Haymond, Millstone, Ryker, Wirt, and Zenas soils, are well suited to deep-rooted legumes. The latest information on recommended grasses and legumes for each soil type can be obtained from local offices of the Cooperative Extension Service and the Natural Resources Conservation Service.

Field crops suited to the soils and climate in the county include those that are currently grown and some that are not commonly grown. Corn, soybeans, and wheat are the principal cultivated crops (fig. 14). Other cultivated crops grown are oats and rye. Alfalfa, red clover, timothy, bromegrass, and orchardgrass are commonly grown for hay and pasture.

The latest information about growing cultivated crops, hay and pasture crops, and specialty crops can be obtained from local offices of the Cooperative Extension Service and the Natural Resources Conservation Service.

Figure 14.—Soybeans being harvested in an area of Muscatatuck and Ryker soils. Blocher and Cincinnati soils are in the background.

Limitations Affecting Cropland and Pastureland

The management concerns affecting the use of the detailed soil map units in the survey area for crops and pasture are shown in table 5.

Cropland

The main concerns in managing cropland are controlling erosion; reducing soil wetness and ponding; minimizing surface crusting and cloddiness; operating equipment safely on steep slopes; and limiting the effects of restricted permeability and low available water capacity.

Some of the limitations and hazards shown in the table cannot be easily overcome. These include *flooding, limited rooting depth, restricted permeability,* and *low available water capacity.*

Generally, a combination of several practices is needed to control both water erosion and wind erosion. Conservation tillage, stripcropping, contour farming, conservation cropping systems, crop residue management, diversions, grassed

waterways (fig. 15), and field windbreaks help to minimize excessive soil loss. Soils that have deep or wide gullies are generally not suitable for use as cropland.

Wetness is a limitation in some areas used for crops, and *ponding* is a hazard. Drainage systems consist of subsurface tile drains, surface inlet tile, open drainage ditches, surface drains, or a combination of these. Measures that maintain the drainage system are needed. Generally, soils that are ponded for long or very long periods during the growing season are not suitable for crops.

Practices that minimize *surface crusting* and *cloddiness* include incorporating green manure crops, manure, or crop residue into the soil and using a system of conservation tillage. Surface cloddiness can be minimized by avoiding tillage when the soil is too wet.

Conserving moisture is needed where the soils have a *low or moderate available water capacity.* It primarily involves reducing the evaporation and runoff rates and increasing the water infiltration rate. Applying conservation tillage and conservation cropping systems, farming on the contour, stripcropping, establishing field windbreaks, and leaving crop residue on the surface conserve moisture.

A *low pH* or a *high pH* (soil reaction) inhibits the uptake of certain nutrients by the plants or accelerates the absorption of certain other elements to the level of toxic concentrations. Either of these conditions affects the health and vigor of plants. In areas of soils that have a low pH, applications of lime should be based on the results of soil tests. The goal is to achieve the optimum pH level for the uptake of the major nutrients by the specific crop. Generally, the natural reaction in the surface layer of most of the soils in the area is a low pH, except for some soils on flood plains. For most soils in the area, the pH needs to be raised to an optimal level for the crop being grown. Soils with a high pH may need treatment to lower the pH so that certain elements are adequately available for crop growth.

Equipment limitations occur in areas where slopes are 15 percent or more. The operation of farm equipment may be restricted and can become hazardous. Generally, soils with an average slope of 18 percent or more are not suitable for cultivated crops. The use of equipment is limited in areas of some soils because of the slope. Rock fragments on the surface can limit the type of equipment that can be used or can damage equipment during planting operations. Equipment use is also restricted in

Figure 15.—Grassed waterways help to control surface water runoff and erosion on the sloping soils in the county.

areas in which 3 percent or more of the surface is covered with stones or boulders or in areas where the soils have a gravelly or cobbly surface layer.

Limited rooting depth and a limited amount of moisture available for plant growth are caused by root-restrictive features within a depth of 40 inches. Root-restrictive features include bedrock, a fragipan, dense till, or stratified sand and gravel.

Crops can be damaged if the soil is subject to occasional or frequent periods of *flooding* during the growing season. Winter-grown small grain crops are especially susceptible to damage. Water-tolerant species should be used in areas that are subject to flooding during the growing season.

The following is an explanation of the criteria used to determine the limitations or hazards listed in the table.

Crusting.—The content of organic matter in the surface layer is less than or equal to 2 percent, the percent passing the number 200 sieve is more than 50 percent, and the content of clay is less than or equal to 32 percent.

Equipment limitation.—The soil has an average slope range that is 15 percent or more; or the soil has stones or boulders that cover 3 percent or more of the surface; or the surface layer contains 15 percent or more rock fragments.

Flooding.—The soil is subject to occasional or frequent periods of flooding during the growing season.

High pH.—Soils that naturally have high pH or high reaction have a typical pH value of 7.4 or more in the surface layer.

Limited rooting depth.—Root-restrictive layers, including bedrock, fragipan, dense till, and stratified sand and gravel, are within a depth of 40 inches.

Low or very low available water capacity.—The weighted average of the available water capacity is less than 0.10 inch of water per inch of soil within a depth of 60 inches.

Low pH.—Soils that naturally have low pH or low reaction have a typical pH value of 6.0 or less in the surface layer.

Moderate available water capacity.—The weighted average of the available water capacity ranges from 0.10 to 0.15 inch of water per inch of soil within a depth of 60 inches.

Ponding.—The soil is subject to occasional or frequent periods of ponding during the growing season.

Restricted permeability.—Permeability is less than 0.2 inch per hour in one or more layers within a depth of 40 inches.

Water erosion.—The soil erosion factor Kf or Kw multiplied by the slope is more than 0.8, and the average slope is 3 percent or more.

Wetness.—The soil has a water table within a depth of 1.5 feet during the growing season.

Wind erosion.—The wind erodibility group (WEG) assigned to the soil is 1 or 2 (3 for soils that are not on flood plains).

Erosion factors (e.g., Kw factor) and wind erodibility groups are described under the heading “Erosion Properties of the Soils.”

Pasture

Growing legumes, cool-season grasses, and warm-season grasses that are suited to the soils and the climate of the area helps to maintain a productive stand of pasture (fig. 16). The main management concerns affecting pasture are erosion, equipment limitations, wetness and ponding, trafficability, and a low or very low available water capacity.

Some of the limitations and hazards shown in the table cannot be easily overcome. These are *depth to bedrock, low or very low available water capacity,* and *flooding.*

Also, the majority of the soils suitable for growing legumes have a high potential for frost action. The local office of the Natural Resources Conservation Service or

Figure 16.—A hayfield on a typical landform on the Illinoian till plain.

the Cooperative Extension Service can provide information about legumes subject to damage from frost heave. This hazard is not listed in table 5 because it applies to the majority of the soils.

Both water erosion and wind erosion reduce the productivity of pastureland. Controlling *erosion* during seedbed preparation is a major concern. If the soil is tilled for the reseeding of pasture or hay crops, planting winter cover crops, establishing grassed waterways, field windbreaks, farming on the contour, and using a system of conservation tillage that leaves a protective cover of crop residue on the surface can help to minimize erosion. Soils that have deep or wide gullies are generally not suitable for pasture.

Wetness is a limitation in some areas used as pasture, and *ponding* is a hazard. Overgrazing or grazing when the soil is wet reduces the extent of plant cover and results in surface compaction and thus increases the susceptibility to erosion. Proper stocking rates, rotation grazing, and timely deferment of grazing, especially during wet periods, help to keep the pasture in good condition. Drainage systems consist of subsurface tile drains, surface inlet tile, open drainage ditches, surface drains, or a combination of these. Measures that maintain the drainage system are needed. Generally, soils that are ponded for long or very long periods during the growing season are not suitable for pasture.

Trafficability refers to the ability of the soil to support both livestock and machinery. It is a concern in areas of soils that are subject to wetness and have a loamy, clayey, or organic surface layer. The proper location of livestock facilities (watering, feeding, and shelter) helps to minimize surface compaction or the formation of ruts and helps to prevent damage to pasture crops.

Equipment limitations occur in areas where slopes are 15 percent or more. The operation of farm equipment may be restricted and can become hazardous. The use

of equipment is restricted in some areas because of the slope. Generally, soils that have an average slope of 25 percent or more are not suitable for use as pastureland. The use of equipment is also a concern in areas of soils that have rock fragments on the surface or in the surface layer. The type of equipment that can be used is restricted in these areas, and the equipment may be damaged during reseeding and planting operations.

Limited rooting depth and a limited amount of moisture available for plant growth are caused by root-restrictive features within a depth of 40 inches. Root-restrictive features include bedrock, a fragipan, dense till, or stratified sand and gravel. *Available water capacity* refers to the capacity of soils to hold water available for use by most plants. The quality and quantity of the pasture may be reduced in areas where the soils have a low or very low available water capacity. The soil moisture may be inadequate for the maintenance of a healthy community of desired pasture species and, thus, the desired number of livestock. A poor quality pasture may increase the hazard of erosion and increase the runoff of pollutants. Planting drought-resistant species of grasses and legumes helps to establish a vegetative cover. Irrigation may be needed.

A *low pH* or a *high pH* (soil reaction) inhibits the uptake of certain nutrients by the plants or accelerates the absorption of certain other elements to the level of toxic concentrations. Either of these conditions affects the health and vigor of plants. For a low pH, applications of lime should be based on the results of soil tests. The goal is to achieve the optimum pH level for the uptake of the major nutrients by the specific grass, legume, or combination of grasses and legumes.

The following is an explanation of the criteria used to determine the limitations or hazards listed in the table.

Equipment limitation.—The soil has an average slope range that is 15 percent or more; or the soil has stones or boulders that cover 3 percent or more of the surface; or the surface layer contains 15 percent or more rock fragments.

Flooding.—The soil is subject to occasional or frequent periods of flooding during the growing season.

High pH.—Soils that naturally have high pH or high reaction have a typical pH value of 7.4 or more in the surface layer.

Limited rooting depth.—Root-restrictive layers, including bedrock, fragipan, dense till, and stratified sand and gravel, are within a depth of 40 inches.

Low or very low available water capacity.—The weighted average of the available water capacity is less than 0.10 inch of water per inch of soil within a depth of 60 inches.

Low pH.—Soils that naturally have low pH or low reaction have a typical pH value of 6.0 or less in the surface layer.

Ponding.—The soil is subject to occasional or frequent periods of ponding during the growing season.

Trafficability.—The soil is somewhat poorly drained, poorly drained, or very poorly drained and has a loamy, clayey, or organic surface layer.

Water erosion.—The soil erosion factor Kf or Kw multiplied by the slope is more than 0.8, and the average slope is 3 percent or more.

Wetness.—The soil is poorly drained or very poorly drained.

Wind erosion.—The wind erodibility group (WEG) assigned to the soil is 1 or 2 (3 for soils that are not on flood plains).

Erosion factors (e.g., Kf factor) and wind erodibility groups are described under the heading “Erosion Properties of the Soils.”

Crop Yield Estimates

The average yields per acre that can be expected for the principal crops under a high level of management are shown in table 6. In any given year, yields may be higher or lower than those indicated in the table. These differences are the result of

variations in rainfall and other climatic factors; varieties grown; environmental factors, such as plant diseases and insect infestations; and type of fertility program. The land capability classification of each map unit also is shown in the table.

The estimated yields in the table were calculated based on a specific value for corn yields, and the yields for the other crops listed are calculated as a percentage relative to the corn yield.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage; erosion control; protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed and implemented. The relative productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in the table are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or the Cooperative Extension Service can provide additional information about the management and productivity of the soils for those crops.

Pasture and Hayland Interpretations

Under good management, proper grazing is essential for the production of high-quality forage, stand survival, and erosion control. Proper grazing helps plants to maintain sufficient and generally vigorous growth during the growing season. Brush control is essential in many areas, and weed control generally is needed. Rotation grazing and renovation also are important management practices.

Yield estimates are often provided in animal unit months (AUM), or the amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

The estimated grass-legume hay and pasture yields in table 6 were calculated as a percentage relative to a specific value for corn yields. Yields for hay and pasture crops vary widely based on the type and combination of grass and legume crops grown.

The local office of the Natural Resources Conservation Service or the Cooperative Extension Service can provide information about forage yields other than those shown in table 6.

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for pasture, for forestland, or for engineering purposes.

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit (USDA, 1961). Only class and subclass are used in this survey.

Capability classes, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class 1 soils have slight limitations that restrict their use.

Class 2 soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.

Class 4 soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.

Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, forestland, or wildlife habitat.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, forestland, or wildlife habitat.

Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to pasture, forestland, or wildlife habitat.

Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

Capability subclasses are soil groups within one class. They are designated by adding a small letter, *e, w, s,* or *c,* to the class numeral, for example, 2e. The letter *e* shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c,* used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class 1 there are no subclasses because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by *w, s,* or *c* because the soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use to pasture, forestland, or wildlife habitat.

The capability classification of the soils in this survey area is given in the section "Detailed Soil Map Units" and in the yields table.

Prime Farmland

Prime farmland is one of several kinds of important farmland defined by the U.S. Department of Agriculture. It is of major importance in meeting the Nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil qualities, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. It is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent. More detailed

information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

A recent trend in land use in some parts of the survey area has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

About 85,312 acres, or 35 percent of the survey area, meets the criteria for prime farmland. Areas of this land are throughout the county.

The map units in the survey area that are considered prime farmland are listed in table 7. This list does not constitute a recommendation for a particular land use. On some soils included in the list, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures. The extent of each listed map unit is shown in table 4. The location is shown on the detailed soil maps. The soil qualities that affect use and management are described under the heading “Detailed Soil Map Units.”

Hydric Soils

In this section, hydric soils are defined and described and the hydric soils in the survey area are listed.

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985) (fig. 17). Criteria for all of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils, under natural conditions, are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in “Soil Taxonomy” (Soil Survey Staff, 1999) and “Keys to Soil Taxonomy” (Soil Survey Staff, 2010) and in the “Soil Survey Manual” (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in “Field Indicators of Hydric Soils in the United States” (Hurt and Vasilas, 2010).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. The depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions

Figure 17.—The crayfish towers in this area of wet soils are secondary indicators of hydrology.

observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

The following map units meet the definition of hydric soils and, in addition, have at least one of the hydric soil indicators. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and Vasilas, 2010).

BgeAH—Birds silt loam, 0 to 1 percent slopes, frequently flooded, brief duration
BgeAHU—Birds silt loam, undrained, 0 to 1 percent slopes, frequently flooded, brief duration
BodAQ—Bonnie silt loam, 0 to 1 percent slopes, rarely flooded
ClfA—Cobbsfork silt loam, 0 to 1 percent slopes
CxdA—Cyclone silty clay loam, 0 to 1 percent slopes
PhaA—Peoga silt loam, 0 to 1 percent slopes
PlpAH—Piopolis silty clay loam, 0 to 1 percent slopes, frequently flooded, brief duration
PlpAHU—Piopolis silty clay loam, undrained, 0 to 1 percent slopes, frequently flooded, brief duration
WooAQ—Wilhite silt loam, overwash, 0 to 1 percent slopes, rarely flooded

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

The following map units, in general, do not meet the definition of hydric soils because they do not have one of the hydric soil indicators; however, areas of hydric soils may be included in some delineations. The components with hydric characteristics and their average percentage of the map unit are included in

parentheses. Onsite investigation is recommended to determine whether hydric soils occur and the location of the included hydric soils. In some cases a minor component may be referred to that was not mapped in Jennings County but that has been mapped within one of the major land resource areas (MLRAs) of which Jennings County is a part.

AddA—Avonburg silt loam, 0 to 2 percent slopes (Cobbsfork, 10 percent)
AddB2—Avonburg silt loam, 2 to 4 percent slopes, eroded (Cobbsfork, 10 percent)
AzoA—Ayrshire fine sandy loam, sandy substratum, 0 to 2 percent slopes (Lyles, 5 percent)
BbhA—Bartle silt loam, 0 to 2 percent slopes (Peoga, 10 percent)
DfnA—Dubois silt loam, 0 to 2 percent slopes (Peoga, 10 percent)
DfnB2—Dubois silt loam, 2 to 6 percent slopes, eroded (Peoga, 3 percent)
FdbA—Fincastle silt loam, 0 to 2 percent slopes (Cyclone, 10 percent)
FdqB—Fincastle-Xenia silt loams, 2 to 4 percent slopes (Cyclone, 10 percent)
HleAW—Holton silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration (very deep, loamy Typic Fluvaquents, 5 percent)
MnpC2—Miami silt loam, 6 to 12 percent slopes, eroded (Cyclone, 3 percent)
RywB2—Russell silt loam, 2 to 6 percent slopes, eroded (Cyclone, 1 percent)
SldAW—Shoals silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration (Sloan, 10 percent)
StdAH—Stendal silt loam, 0 to 2 percent slopes, frequently flooded, brief duration (Piopolis, 3 percent)
StdAQ—Stendal silt loam, 0 to 2 percent slopes, rarely flooded (Bonnie, 5 percent)
UfdA—Urban land-Cobbsfork-Avonburg complex, 0 to 2 percent slopes (Cobbsfork, 17 percent)
WaaAH—Wakeland silt loam, 0 to 2 percent slopes, frequently flooded, brief duration (Birds, 10 percent)
WaaAW—Wakeland silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration (Birds, 10 percent)
WnmA—Whitcomb silt loam, 0 to 2 percent slopes (very deep, silty Fragic Epiaquults, 3 percent)
WufB2—Williamstown silt loam, 2 to 6 percent slopes, eroded (Cyclone, 3 percent)
XabB2—Xenia silt loam, 2 to 6 percent slopes, eroded (Cyclone, 1 percent)

Windbreaks and Environmental Plantings

Windbreaks protect livestock, buildings, yards, fruit trees, gardens, and cropland from wind and snow; help to keep snow on fields; and provide food and cover for wildlife. Field windbreaks are narrow plantings made at right angles to the prevailing wind and at specific intervals across the field. The interval depends on the erodibility of the soil.

Environmental plantings help to beautify and screen houses and other buildings and to abate noise. The plants, mostly evergreen shrubs and trees, are closely spaced. To ensure plant survival, a healthy planting stock of suitable species should be planted properly on a well prepared site and maintained in good condition.

Table 8 shows the height that locally grown trees and shrubs are expected to reach in 20 years on various soils. The estimates in the table are based on measurements and observation of established plantings that have been given adequate care. They can be used as a guide in planning windbreaks and screens.

Additional information on planning windbreaks and screens and planting and caring for trees and shrubs can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service or from a commercial nursery.

Forestland

Hardwood forest once covered most of the land in Jennings County, but many of the trees have been removed from most of the land suitable for cultivation. Much of the remaining forest cover is in steep or very steep areas in the uplands or in backswamp areas on flood plains.

Upland oaks are dominant on the well drained sites. Bonnell, Elkinsville, Grayford, Hickory, Millstone, Ryker, and Zenas soils, for example, are well suited to upland oaks and associated species. White oak, red oak, black oak, and chinkapin oak are examples. Basswood, beech, black walnut, hickory, sugar maple, and tulip poplar are the main associated species. Tulip poplar generally grows on the lower parts of steep slopes, on cool aspects (north and northeast slopes), and in coves.

Sweetgum, pin oak, swamp white oak, elm, and red maple are the major forest types on the poorly drained Cobbsfork and Peoga soils on uplands and lake plains and on the poorly drained Piopolis and Birds and somewhat poorly drained Stendal and Wakeland soils on flood plains. Associated species include silver maple, red maple, river birch, hickory, and sycamore.

Site characteristics that affect tree growth include aspect, or the direction the slope is facing, and position on the slope. These site characteristics influence the amount of available sunlight, air drainage, soil temperature, soil moisture, and relative humidity. North- and east-facing slopes and low positions on the slope are generally the best upland sites for tree growth because they are cooler and have better moisture conditions than south- and west-facing slopes.

Soil properties are fundamentally important for woodland production. Twenty-five percent or more of the mass of a tree is in the soil, which serves as a reservoir for moisture, provides an anchor for roots, and supplies essential plant nutrients. Soil properties that affect the growth of trees include reaction, fertility, wetness, texture, structure, slope, and depth. Trees grow best on soils whose properties are not in the extreme range and that have an effective rooting depth of more than 40 inches.

Soil wetness is the result of a high water table at or above the surface. Soil wetness, flooding, and ponding are properties that greatly influence the species of trees that will grow on a specific site. For example, poorly drained soils or soils that are subject to frequent, long periods of flooding are best suited to species that tolerate wetness, such as pin oak and sweetgum. Well drained soils and soils that are not subject to frequent periods of flooding are best suited to species that cannot tolerate wetness, such as black walnut and white oak.

Wetness causes seedling mortality, limits the use of equipment, and increases the windthrow hazard by restricting the rooting depth of some trees (fig. 18). Ruts form easily if wheeled skidders are used when the soils are wet. Deep ruts restrict lateral drainage and damage tree roots and soil structure. Ruts can also form during periods of temporary saturation, such as after heavy rainfall. Flooding is a particular hazard if it occurs frequently or if it lasts more than 7 days. Equipment should be used only during dry periods.

The slope can limit the use of forestry equipment. A slope of 15 percent or more limits the use of some types of equipment in logging and yarding areas and on skid trails and unsurfaced logging roads. The limitation is even more severe in areas that have slopes of more than 25 percent. Erosion is a hazard in areas where the soils are disturbed and the natural ground cover has been removed or diminished. Applying such management practices as water bars or dips can help to control erosion. Also, the design of logging roads and skid trails can help to overcome the steepness and length of slopes and can help to prevent the concentration of water. Operating forestry equipment on the contour where possible helps to control erosion, but in some areas the slope may be a safety concern. On the steeper slopes, logs should be moved uphill to skid trails and yarding areas.

Figure 18.—Wetness increases the windthrow hazard.

Forestland productivity can be influenced by management activities. These practices include thinning young stands, harvesting mature trees, reducing the potential for fire, and eliminating the use of woodland for grazing. Some of the forestland in the county is used for grazing. Grazing destroys the leaf layer that protects the soil from erosion, can cause soil compaction, and destroys or damages seedlings. Forestland sites that are not used for grazing and where forest management activities are implemented have the highest potential for production.

Much of the existing commercial forestland in Jennings County could be improved by thinning out mature trees and undesirable species (timber stand improvement). The Natural Resources Conservation Service, the State Division of Forestry, consulting foresters, or the Cooperative Extension Service can help to determine specific woodland management needs and provide assistance in establishing, improving, and preserving forestland.

Forestland Productivity and Management

The tables described in this section can help forest owners or managers plan the use of soils for wood crops. They show the potential productivity of the soils for wood crops and rate the soils according to the limitations that affect various aspects of forestland management.

Forestland Productivity

In table 9, the *potential productivity* of merchantable or *common trees* on a soil is expressed as a site index and as a volume number. The *site index* is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged,

unmanaged stands. Commonly grown trees are those that forest managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability. More detailed information regarding site index is available in the “National Forestry Manual,” which is available in local offices of the Natural Resources Conservation Service or on the Internet.

The *volume of wood fiber*, a number, is the yield likely to be produced by the most important tree species. This number, expressed as cubic feet per acre per year and calculated at the age of culmination of the mean annual increment (CMAI), indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

Trees to plant are those that are preferred for planting, seeding, or natural regeneration and those that remain in the stand after thinning or partial harvest.

Forestland Management

In tables 10a, 10b, 10c, and 10d, interpretive ratings are given for various aspects of forestland management. The ratings are both verbal and numerical.

Some rating class terms indicate the degree to which the soils are suited to a specified aspect of forestland management. *Well suited* indicates that the soil has features that are favorable for the specified management aspect and has no limitations. Good performance can be expected, and little or no maintenance is needed. *Moderately suited* indicates that the soil has features that are moderately favorable for the specified management aspect. One or more soil properties are less than desirable, and fair performance can be expected. Some maintenance is needed. *Poorly suited* indicates that the soil has one or more properties that are unfavorable for the specified management aspect. Overcoming the unfavorable properties requires special design, extra maintenance, and costly alteration. *Unsuited* indicates that the expected performance of the soil is unacceptable for the specified management aspect or that extreme measures are needed to overcome the undesirable soil properties.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the specified aspect of forestland management (1.00) and the point at which the soil feature is not a limitation (0.00).

Rating class terms for seedling mortality are expressed as *low, moderate,* and *high*. Where these terms are used, the numerical ratings indicate gradations between the point at which the potential for seedling mortality is highest (1.00) and the point at which the potential is lowest (0.00).

The paragraphs that follow indicate the soil properties considered in rating the soils. More detailed information about the criteria used in the ratings is available in the “National Forestry Manual,” which is available in local offices of the Natural Resources Conservation Service or on the Internet.

For *limitations affecting construction of haul roads and log landings*, the ratings are based on slope, flooding, permafrost, plasticity index, the hazard of soil slippage, content of sand, the Unified classification, rock fragments on or below the surface, depth to a restrictive layer that is indurated, depth to a water table, and ponding. The limitations are described as slight, moderate, or severe. A rating of *slight* indicates that no significant limitations affect construction activities, *moderate* indicates that one or more limitations can cause some difficulty in construction, and *severe* indicates that one or more limitations can make construction very difficult or very costly.

The ratings of *suitability for log landings* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The soils are described as well suited, moderately suited, or poorly suited to use as log landings.

Ratings in the column *soil rutting hazard* are based on depth to a water table, rock fragments on or below the surface, the Unified classification, depth to a restrictive

layer, and slope. Ruts form as a result of the operation of forest equipment. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that the soil is subject to little or no rutting, *moderate* indicates that rutting is likely, and *severe* indicates that ruts form readily.

Ratings in the column *hazard of off-road or off-trail erosion* are based on slope and on soil erosion factor K. The soil loss is caused by sheet or rill erosion in off-road or off-trail areas where 50 to 75 percent of the surface has been exposed by logging, grazing, mining, or other kinds of disturbance. The hazard is described as slight, moderate, severe, or very severe. A rating of *slight* indicates that erosion is unlikely under ordinary climatic conditions; *moderate* indicates that some erosion is likely and that erosion-control measures may be needed; *severe* indicates that erosion is very likely and that erosion-control measures, including revegetation of bare areas, are advised; and *very severe* indicates that significant erosion is expected, loss of soil productivity and off-site damage are likely, and erosion-control measures are costly and generally impractical.

Ratings in the column *hazard of erosion on roads and trails* are based on the soil erosion factor K, slope, and content of rock fragments. The ratings apply to unsurfaced roads and trails. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that little or no erosion is likely; *moderate* indicates that some erosion is likely, that the roads or trails may require occasional maintenance, and that simple erosion-control measures are needed; and *severe* indicates that significant erosion is expected, that the roads or trails require frequent maintenance, and that costly erosion-control measures are needed.

Ratings in the column *suitability for roads (natural surface)* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The ratings indicate the suitability for using the natural surface of the soil for roads. The soils are described as well suited, moderately suited, or poorly suited to this use.

Ratings in the columns *suitability for hand planting* and *suitability for mechanical planting* are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, moderately suited, poorly suited, or unsuited to these methods of planting. It is assumed that necessary site preparation is completed before seedlings are planted.

Ratings in the column *suitability for use of harvesting equipment* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, and ponding. The soils are described as well suited, moderately suited, or poorly suited to this use.

Ratings in the column *potential for seedling mortality* are based on flooding, ponding, depth to a water table, content of lime, reaction, salinity, available water capacity, soil moisture regime, soil temperature regime, aspect, and slope. The soils are described as having a low, moderate, or high potential for seedling mortality.

Recreational Development

In tables 11a and 11b, the soils of the survey area are rated according to limitations that affect their suitability for recreational development. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the recreational uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot

be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The ratings in the tables are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation also are important. Soils that are subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

The information in these tables can be supplemented by other information in this survey, for example, interpretations for dwellings without basements, for local roads and streets, and for septic tank absorption fields.

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. Slope, stoniness, and depth to bedrock or a cemented pan are the main concerns affecting the development of camp areas. The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Playgrounds require soils that are nearly level, are free of stones, and can withstand intensive foot traffic. The ratings are based on the soil properties that affect the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of playgrounds. For good trafficability, the surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Paths and trails for hiking and horseback riding should require little or no slope modification through cutting and filling. The ratings are based on the soil properties that affect trafficability and erodibility. These properties are stoniness, depth to a water table, ponding, flooding, slope, and texture of the surface layer.

Off-road motorcycle trails require little or no site preparation. They are not covered with surfacing material or vegetation. Considerable compaction of the soil material is likely. The ratings are based on the soil properties that influence erodibility, trafficability, dustiness, and the ease of revegetation. These properties are stoniness, slope, depth to a water table, ponding, flooding, and texture of the surface layer.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer. The suitability of the soil for traps, tees, roughs, and greens is not considered in the ratings.

Wildlife Habitat

Soils affect the kind and amount of vegetation that is available to wildlife as food and cover. They also affect the construction of water impoundments. The kind and abundance of wildlife depend largely on the amount and distribution of food, cover, and water. Wildlife habitat can be created or improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants.

In table 12, the soils in the survey area are rated according to their potential for providing habitat for various kinds of wildlife. This information can be used in planning parks, wildlife refuges, nature study areas, and other developments for wildlife; in selecting soils that are suitable for establishing, improving, or maintaining specific elements of wildlife habitat; and in determining the intensity of management needed for each element of the habitat.

The potential of the soil is rated good, fair, poor, or very poor. A rating of *good* indicates that the element or kind of habitat is easily established, improved, or maintained. Few or no limitations affect management, and satisfactory results can be expected. A rating of *fair* indicates that the element or kind of habitat can be established, improved, or maintained in most places. Moderately intensive management is required for satisfactory results. A rating of *poor* indicates that limitations are severe for the designated element or kind of habitat. Habitat can be created, improved, or maintained in most places, but management is difficult and must be intensive. A rating of *very poor* indicates that restrictions for the element or kind of habitat are very severe and that unsatisfactory results can be expected. Creating, improving, or maintaining habitat is impractical or impossible.

The elements of wildlife habitat are described in the following paragraphs.

Grain and seed crops are domestic grains and seed-producing herbaceous plants. Soil properties and features that affect the growth of grain and seed crops are depth of the root zone, texture of the surface layer, available water capacity, wetness, slope, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Examples of grain and seed crops are corn, wheat, rye, oats, sunflowers, and sorghum.

Grasses and legumes are domestic perennial grasses and herbaceous legumes. Soil properties and features that affect the growth of grasses and legumes are depth of the root zone, texture of the surface layer, available water capacity, wetness,

surface stoniness, flooding, and slope. Soil temperature and soil moisture also are considerations. Examples of cool-season grasses and legumes are lovegrass, bromegrass, clover, crown vetch, timothy, orchardgrass, trefoil, and alfalfa. Examples of warm-season grasses are big bluestem, little bluestem, Indiangrass, sideoats grama, and switchgrass.

Wild herbaceous plants are native or naturally established grasses and forbs, including weeds. Soil properties and features that affect the growth of these plants are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Examples of wild herbaceous plants are bluestem, goldenrod, beggarweed, wheatgrass, and grama.

Hardwood trees and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, and foliage. Soil properties and features that affect the growth of hardwood trees and shrubs are depth of the root zone, available water capacity, and wetness. Examples of these plants are oak, poplar, cherry, sweetgum, willow, apple, hawthorn, hazelnut, dogwood, hickory, black walnut, blackberry, elderberry, and blueberry. Examples of fruit-producing shrubs that are suitable for planting on soils rated *good* are hawthorn, American plum, and crabapple.

Coniferous plants furnish browse and seeds. Soil properties and features that affect the growth of coniferous trees, shrubs, and ground cover are depth of the root zone, available water capacity, and wetness. Examples of coniferous plants are pine and eastern redcedar.

Wetland plants are annual and perennial wild herbaceous plants that grow on moist or wet sites. Submerged or floating aquatic plants are excluded. Soil properties and features affecting wetland plants are texture of the surface layer, wetness, reaction, salinity, slope, and surface stoniness. Examples of wetland plants are smartweed, wild millet, wildrice, saltgrass, cordgrass, rushes, sedges, and reeds.

Shallow water areas have an average depth of less than 5 feet. Some are naturally wet areas. Others are created by dams, levees, or other water-control structures. Soil properties and features affecting shallow water areas are depth to bedrock, wetness, surface stoniness, slope, and permeability. Examples of shallow water areas are marshes, waterfowl feeding areas, and ponds.

The habitat for various kinds of wildlife is described in the following paragraphs.

Habitat for openland wildlife consists of cropland, pasture, meadows, and areas that are overgrown with grasses, herbs, shrubs, and vines. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants. Wildlife attracted to these areas include bobwhite quail, mourning dove, meadowlark, field sparrow, cottontail, and red fox.

Habitat for woodland wildlife consists of areas of deciduous and/or coniferous plants and associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas include wild turkey, ruffed grouse, woodcock, thrushes, woodpeckers, squirrels, gray fox, raccoon, and deer.

Habitat for wetland wildlife consists of open, marshy or swampy shallow water areas. Some of the wildlife attracted to such areas are ducks, geese, herons, shore birds, muskrat, mink, and beaver.

Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, and construction materials. The ratings are based on observed performance of the soils and on the data in the tables described under the heading “Soil Properties.”

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The

information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about particle-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 7 feet of the surface, soil wetness, depth to a water table, ponding, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, reclamation material, roadfill, and topsoil; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

Building Site Development

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Tables 13a and 13b show the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

The ratings in the tables are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate

gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Dwellings are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Small commercial buildings are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing (fig. 19).

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate;

Figure 19.—An example of unstable excavation walls in an area of soils that formed in loamy Wisconsinan till.

and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

Sanitary Facilities

Tables 14a and 14b show the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

A *trench sanitary landfill* is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil excavated at the site. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. The ratings in the table are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include permeability, depth to bedrock or a cemented pan, depth to a water table, ponding, slope, flooding, texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of excavation and the hazard of ground-water pollution. Slope affects construction of the trenches and the movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

In an *area sanitary landfill*, solid waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site. A final cover of soil material at least 2 feet thick is placed over the completed landfill. The ratings in the table are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, permeability, depth to a water table, ponding, slope, and depth to bedrock or a cemented pan.

Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If permeability is too rapid or if fractured bedrock, a fractured cemented pan, or the water table is close to the surface, the leachate can contaminate the water supply. Slope is a consideration because of the extra grading required to maintain roads in the steeper areas of the landfill. Also, leachate may flow along the surface of the soils in the steeper areas and cause difficult seepage problems.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The ratings in the table also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, depth to a water table, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime.

Loamy or silty soils that are free of large stones and excess gravel are the best cover for a landfill. Clayey soils may be sticky and difficult to spread; sandy soils are subject to wind erosion.

Slope affects the ease of excavation and of moving the cover material. Also, it can influence runoff, erosion, and reclamation of the borrow area.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime and should not be too acid.

Construction Materials

Tables 15a and 15b give information about the soils as potential sources of gravel, sand, reclamation material, roadfill, and topsoil. Normal compaction, minor processing, and other standard construction practices are assumed.

Gravel and *sand* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In table 15a, only the likelihood of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the bottom layer of the soil contains sand or gravel, the soil is considered a likely source regardless of thickness. The assumption

is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

The soils are rated *good, fair,* or *poor* as potential sources of sand and gravel. A rating of *good* or *fair* means that the source material is likely to be in or below the soil. The bottom layer and the thickest layer of the soils are assigned numerical ratings. These ratings indicate the likelihood that the layer is a source of sand or gravel. The number 0.00 indicates that the layer is a poor source. The number 1.00 indicates that the layer is a good source. A number between 0.00 and 1.00 indicates the degree to which the layer is a likely source.

In table 15b, the rating class terms are *good, fair,* and *poor*. The features that limit the soils as sources of reclamation material, roadfill, and topsoil are specified in the table. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of reclamation material, roadfill, and topsoil. The lower the number, the greater the limitation.

Reclamation material is used in areas that have been drastically disturbed by surface mining or similar activities. When these areas are reclaimed, layers of soil material or unconsolidated geological material, or both, are replaced in a vertical sequence. The reconstructed soil favors plant growth. The ratings in the table do not apply to quarries and other mined areas that require an offsite source of reconstruction material. The ratings are based on the soil properties that affect erosion and stability of the surface and the productive potential of the reconstructed soil. These properties include the content of sodium, salts, and calcium carbonate; reaction; available water capacity; erodibility; texture; content of rock fragments; and content of organic matter and other features that affect fertility.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

Soil Properties

Data relating to soil properties are collected during the course of the soil survey.

Soil properties are determined by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine particle-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties are shown in tables. They include engineering index properties, physical and chemical properties, and pertinent soil and water features.

Engineering Index Properties

Table 16 gives the engineering classifications and the range of engineering properties for the layers of each soil in the survey area.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter (fig. 20). “Loam,” for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, “gravelly.” Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement,

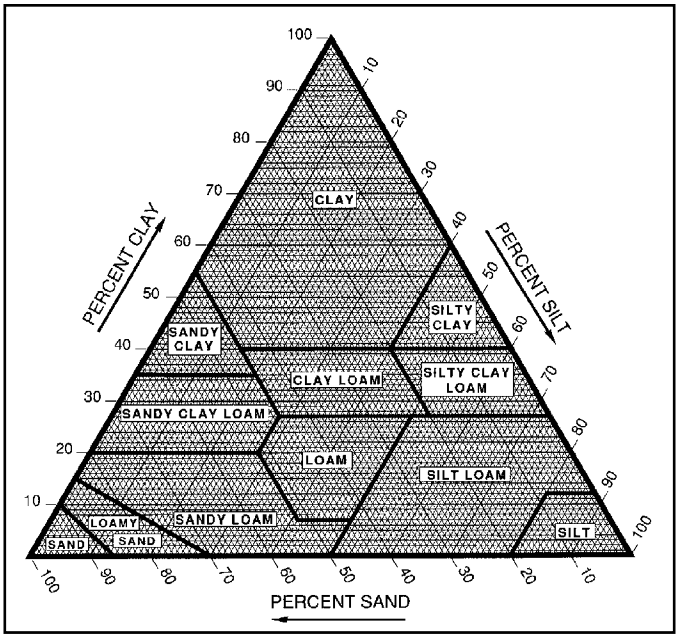

Figure 20.—Percentages of clay, silt, and sand in the basic USDA soil textural classes.

the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

Physical Properties of the Soils

Table 17 shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In the table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In the table, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In the table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at $^1/_3$- or $^1/_{10}$-bar (33-kPa or 10-kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute linear extensibility, shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Permeability (Ksat) refers to the ability of a soil to transmit water or air. The term “permeability,” as used in soil surveys, indicates saturated hydraulic conductivity (Ksat). The estimates in the table indicate the rate of water movement, in inches per hour, when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33-kPa or 10-kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent.

If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In the table, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

Erosion Properties of the Soils

Erosion factors are shown in table 18 as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor Kw indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the “National Soil Survey Handbook” (USDA/NRCS, National Soil Survey Handbook).

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Slope length is the horizontal distance, in feet, from the origin of overland flow to the point where either the slope gradient decreases enough that deposition begins or runoff becomes concentrated in a defined channel (USDA/NRCS, National Soil Survey Handbook).

Slope gradient is the difference in elevation between two points and is expressed as a percentage of the distance between the two points. For example, a difference in elevation of 1 meter over a horizontal distance of 100 meters is a slope of 1 percent.

Chemical Properties of the Soils

Table 19 shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Cation-exchange capacity is the total amount of extractable bases that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality

(pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

Effective cation-exchange capacity refers to the sum of extractable bases plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

Soil reaction is a measure of acidity or alkalinity. The pH of each soil horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Calcium carbonate equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil. Incorporating nitrogen fertilizer into calcareous soils helps to prevent nitrite accumulation and ammonium-N volatilization.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In the table, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

Water Features

Table 20 gives estimates of various water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

Surface runoff refers to the loss of water from an area by flow over the land surface. Surface runoff classes are based on slope, climate, and vegetative cover. It is assumed that the surface of the soil is bare and that the retention of surface water resulting from irregularities in the ground surface is minimal. The classes are negligible, very low, low, medium, high, and very high.

The *months* in the table indicate the portion of the year in which the feature is most likely to be a concern.

Water table refers to a saturated zone in the soil. The table indicates, by month, depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. The table indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and *frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

Soil Features

Table 21 gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness of the restrictive layer, which significantly affects the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Soil slippage potential is the susceptibility of a soil mass to movement downslope when loaded, excavated, or wet. Soil slippage is caused by several natural factors, and the potential is greatly increased by human activity. Type of bedrock and depth to bedrock, slope gradient, position on the landform, clay mineralogy, and the shrink-swell potential are the most important natural factors. Shallow soils that formed in shale, have clay mineralogy, have a high shrink-swell potential, are on steep slopes, and are on footslopes or backslopes are the most susceptible to soil slippage.

Soils that have a medium or high slippage potential are even more susceptible to slippage where certain types of human activity have taken place. Factors that increase the potential for soil slippage include making cuts in hillsides during construction of roadbeds and houses; changing surface runoff patterns and allowing water to concentrate from leaking water and sewer lines; increasing weight on slopes by building structures or placing fill for building sites; changing the course of streams, thereby increasing the flow of water, or removing rock from the streambed, causing the base of slopes to be undercut; and removing vegetation.

Soil slippage causes damage to roads and structures and can endanger human life. Areas that have slipped are susceptible to additional slippage and are generally too unstable for most construction uses.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low, moderate,* or *high,* is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low, moderate,* or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1999 and 2010). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. The categories are defined in the following paragraphs.

ORDER. Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Alfisol.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Aqualf (*Aqu*, meaning water, plus *alf*, from Alfisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Fragiaqualfs (*Fragi*, referring to a fragipan, plus *aqualf*, the suborder of the Alfisols that has an aquic moisture regime).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. An example is Aeric Fragiaqualfs.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineralogy class, cation-exchange activity class, soil temperature regime, soil depth, and reaction class. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-silty, mixed, active, mesic Aeric Fragiaqualfs.

SERIES. The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile.

Table 22 indicates the order, suborder, great group, subgroup, and family of the soil series in the survey area.

Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. Characteristics of the soil and the material in which it formed are identified for each series. A pedon, a small three-dimensional area of soil that is typical of the series in the survey area, is described. The detailed description of each soil horizon follows standards in the "Field Book for Describing and Sampling Soils" (Schoeneberger and others, 2002) and the "Soil Survey Manual" (Soil Survey Division Staff, 1993). Many of the technical terms used in the descriptions are defined in "Soil Taxonomy" (Soil Survey Staff, 1999) and in "Keys to Soil Taxonomy" (Soil Survey Staff, 2006). Unless otherwise stated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

Alvin Series

Taxonomic classification: Coarse-loamy, mixed, superactive, mesic Typic Hapludalfs

Taxadjunct features: The Alvin soils in Jennings County have a lower base status than is typical for the series. This difference, however, does not alter the usefulness or behavior of the soils. These soils are classified as coarse-loamy, mixed, superactive, mesic Ultic Hapludalfs.

Typical Pedon

Alvin fine sandy loam, on a slope of 8 percent in a cultivated field in an area of Alvin-Princeton fine sandy loams, 6 to 12 percent slopes, eroded; 2,250 feet west and 1,550 feet north of the southeast corner of section 5, T. 10 N., R. 6 E., Bartholomew County, Indiana; USGS Edinburgh, Indiana, topographic quadrangle; lat. 39 degrees 20 minutes 15.68 seconds N. and long. 85 degrees 53 minutes 1.06 seconds W., UTM Zone 16, 596207 easting and 4354846 northing, NAD 83.

Ap—0 to 7 inches; brown (10YR 4/3) fine sandy loam, pale brown (10YR 6/3) dry; weak fine granular structure; very friable; common very fine and fine roots; many very fine and fine interstitial and tubular pores; moderately acid; abrupt smooth boundary.

BE—7 to 10 inches; brown (7.5YR 4/4) fine sandy loam, very pale brown (10YR 7/3) dry; weak medium granular structure; very friable; common very fine and fine roots; many very fine and fine interstitial and tubular pores; strongly acid; clear smooth boundary.

Bt1—10 to 20 inches; strong brown (7.5YR 4/6) sandy clay loam; moderate medium subangular blocky structure; firm; common very fine and fine roots; many very fine and fine interstitial and tubular pores; few distinct brown (7.5YR 4/3) clay films on faces of peds; slightly acid; clear smooth boundary.

Bt2—20 to 40 inches; strong brown (7.5YR 4/6) fine sandy loam; moderate medium subangular blocky structure; friable; few very fine and fine roots; common very fine and fine tubular pores; many faint brown (7.5YR 4/3) clay films on faces of peds; moderately acid; clear wavy boundary.

E and Bt—40 to 70 inches; pale brown (10YR 6/3) fine sand (E); single grain; loose; bands of dark yellowish brown (10YR 4/6) fine sandy loam (Bt) $^1/_8$ to $^1/_4$ inch thick with a total thickness of 1 inch; common distinct brown (7.5YR 4/3) clay bridges between sand grains; slightly acid; gradual wavy boundary.

C—70 to 80 inches; dark yellowish brown (10YR 4/6) fine sand; single grain; loose; strongly effervescent; moderately alkaline.

Range in Characteristics

Depth to the base of the argillic horizon: 40 to more than 80 inches

Ap or A horizon:
Hue—10YR
Value—3 or 4
Chroma—3 or 4 (Ap); 1 to 4 (A)
Texture—fine sandy loam or loamy sand
Reaction—strongly acid to neutral

E or BE horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 or 4
Texture—fine sandy loam, sandy loam, or loamy fine sand
Reaction—strongly acid to neutral

Bt horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 to 6
Texture—sandy clay loam, fine sandy loam, sandy loam, or loam
Reaction—strongly acid to neutral
Content of rock fragments—0 to 5 percent

E and Bt horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 to 6
Texture—sandy loam, loamy sand, sand, fine sandy loam, loamy fine sand, or fine sand
Reaction—strongly acid to neutral
Content of rock fragments—0 to 5 percent

C horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 to 6
Texture—sand, loamy sand, sandy loam, fine sand, loamy fine sand, or fine sandy loam
Reaction—slightly acid to moderately alkaline
Content of rock fragments—0 to 5 percent

Avonburg Series

Taxonomic classification: Fine-silty, mixed, active, mesic Aeric Fragic Glossaqualfs

Typical Pedon

Avonburg silt loam, on a slope of 1 percent in a cultivated field; 490 feet west and 685 feet south of the center of section 21, T. 4 N., R. 7 E., Scott County, Indiana; USGS Crothersville, Indiana, topographic quadrangle; lat. 38 degrees 46 minutes 14.2 seconds N. and long. 85 degrees 45 minutes 1.88 seconds W., UTM Zone 16, 608544 easting and 4292062 northing, NAD 83.

Ap—0 to 11 inches; yellowish brown (10YR 5/4) silt loam, very pale brown (10YR 7/3) dry; weak medium granular structure; friable; common very fine roots; common fine distinct spherical black (10YR 2/1) iron-manganese concretions throughout; very strongly acid; abrupt smooth boundary.

BE—11 to 21 inches; brownish yellow (10YR 6/6) silt loam; weak medium subangular blocky structure; friable; few very fine roots; few fine prominent spherical black

(10YR 2/1) iron-manganese concretions throughout; many medium prominent light gray (10YR 7/2) iron depletions in the matrix; very strongly acid; clear wavy boundary.

Btg—21 to 37 inches; light brownish gray (10YR 6/2) silty clay loam; moderate medium prismatic structure parting to moderate coarse subangular blocky; firm; few very fine roots; common distinct gray (10YR 6/1) clay films on faces of peds; common fine prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; few fine prominent spherical black (10YR 2/1) iron-manganese concretions throughout; many faint light gray (10YR 7/2) clay depletions on faces of peds; tongues 2 to 6 inches wide filled with light gray (10YR 7/2) silt loam, about 10 percent by volume; very strongly acid; gradual wavy boundary.

2Btgx/Eg—37 to 52 inches; 50 percent light brownish gray (10YR 6/2) silt loam (Btgx); moderate coarse and very coarse prismatic structure parting to moderate coarse subangular blocky; very firm; brittle; common prominent gray (10YR 6/1) clay films on vertical faces of peds; many coarse prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; common faint light gray (10YR 7/2) clay depletions on vertical faces of peds; 50 percent light gray (10YR 7/2) silt loam (Eg) occurring as tongues that are 2 to 6 inches wide at the top and taper to 1 to 2 inches at the bottom and have a concentration of illuviated grayish brown (10YR 5/2) silty clay loam in the lower part; weak medium and coarse subangular blocky structure; friable; few very fine roots; few fine spherical black (10YR 2/1) iron-manganese concretions throughout; 21 percent sand; 1 percent gravel; extremely acid; gradual wavy boundary.

2Btx—52 to 83 inches; yellowish brown (10YR 5/6) silt loam; moderate very coarse prismatic structure parting to weak coarse subangular blocky; very firm; common prominent gray (10YR 6/1) clay films on faces of peds and in pores; few fine prominent spherical black (10YR 2/1) iron-manganese concretions throughout; common coarse prominent light brownish gray (10YR 6/2) iron depletions in the matrix; 25 percent light gray (10YR 7/2), friable silt loam between peds; 24 percent sand; 1 percent gravel; 75 percent brittle; extremely acid; diffuse wavy boundary.

3Btb—83 to 90 inches; strong brown (7.5YR 5/8) clay loam; moderate coarse subangular blocky structure; firm; many prominent gray (10YR 6/1) clay films on faces of peds; few fine prominent irregular black (10YR 2/1) iron-manganese concretions throughout; many medium prominent light gray (10YR 7/1) iron depletions in the matrix; 4 percent gravel; strongly acid.

Range in Characteristics

Thickness of the loess: 60 to 90 inches
Depth to a layer with fragic soil properties: 20 to 40 inches
Depth to the base of the argillic horizon: More than 80 inches

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam
Reaction—very strongly acid to neutral

A horizon (2 to 4 inches thick):
Hue—10YR
Value—3 or 4
Chroma—1 or 2
Texture—silt loam
Reaction—very strongly acid or strongly acid

BE or EB horizon:
Hue—10YR
Value—5 or 6
Chroma—2 to 6
Texture—silt loam
Reaction—very strongly acid or strongly acid; ranges to slightly acid in areas that have been limed

Bt or Btg horizon:
Hue—10YR
Value—5 or 6
Chroma—1 to 6; where chroma is 3 or more, 50 percent or more of the faces of peds have chroma of 1 or 2
Texture—silt loam or silty clay loam
Reaction—extremely acid or very strongly acid

2Btgx/Eg or 2Btx/Eg horizon (Btgx or Btx part):
Hue—10YR
Value—5 or 6
Chroma—1 to 6
Texture—silt loam; less commonly silty clay loam
Reaction—extremely acid to strongly acid
Content of rock fragments—1 to 2 percent gravel

2Btgx/Eg or 2Btx/Eg horizon (Eg part):
Hue—10YR
Value—5 or 6
Chroma—1 or 2
Texture—silt loam
Reaction—extremely acid to strongly acid
Content of rock fragments—1 to 2 percent gravel

2Btx horizon:
Hue—10YR
Value—5 or 6
Chroma—1 to 6
Texture—silt loam
Reaction—extremely acid to strongly acid
Content of rock fragments—1 to 2 percent gravel

3Btb horizon:
Hue—7.5YR or 10YR
Value—5 or 6
Chroma—2 to 8
Texture—clay loam
Reaction—strongly acid to neutral
Content of rock fragments—2 to 10 percent; mainly gravel, but cobbles and stones included in some pedons

Ayrshire Series

Taxonomic classification: Fine-loamy, mixed, active, mesic Aeric Endoaqualfs

Typical Pedon

Ayrshire fine sandy loam, sandy substratum, in a cultivated field; 990 feet north and 530 feet east of the southwest corner of section 10, T. 6 N., R. 6 E., Jackson County, Indiana; USGS Chestnut Ridge, Indiana, topographic quadrangle; lat. 38 degrees 58

minutes 18.658 seconds N. and long. 85 degrees 51 minutes 5.044 seconds W., UTM Zone 16, 599500 easting and 4314280 northing, NAD 83.

Ap—0 to 9 inches; brown (10YR 4/3) fine sandy loam, pale brown (10YR 6/3) dry; weak fine granular structure; friable; common fine roots; few fine prominent black (N 2.5/) iron-manganese masses; very strongly acid; abrupt smooth boundary.

BE—9 to 17 inches; yellowish brown (10YR 5/4) fine sandy loam; weak medium subangular blocky structure; friable; common fine roots; common fine prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; many fine distinct light gray (10YR 7/2) clay depletions in the matrix; few fine prominent black (N 2.5/) iron-manganese masses; moderately acid; clear wavy boundary.

Btg1—17 to 26 inches; light brownish gray (10YR 6/2) fine sandy loam; weak medium and coarse subangular blocky structure; friable; few fine roots; few faint yellowish brown (10YR 5/4) clay films on faces of peds; many fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine prominent spherical black (N 2.5/) iron-manganese concretions; strongly acid; clear wavy boundary.

Btg2—26 to 42 inches; light gray (10YR 7/1) loam; weak medium and coarse subangular blocky structure; friable; few very fine roots; few faint pale brown (10YR 6/3) clay films on faces of peds; common fine prominent strong brown (7.5YR 5/8) masses of oxidized iron in the matrix; very strongly acid; gradual wavy boundary.

Cg1—42 to 70 inches; light gray (10YR 7/1), stratified fine sandy loam, sandy clay loam, and loamy fine sand; massive; very friable; common fine prominent strong brown (7.5YR 5/8) and common fine distinct brown (10YR 5/3) masses of oxidized iron in the matrix; very strongly acid in the upper part and strongly acid in the lower part; gradual wavy boundary.

Cg2—70 to 80 inches; light gray (10YR 7/1) fine sand; single grain; loose; many fine prominent yellowish brown (10YR 5/6) and distinct light yellowish brown (10YR 6/4) masses of oxidized iron in the matrix; few fine prominent black (N 2.5/) iron-manganese concretions; neutral.

Range in Characteristics

Depth to the base of the argillic horizon: 40 to 60 inches

Ap or A horizon:
Hue—10YR
Value—3 to 5; where value is 3, the A horizon is less than 5 inches thick
Chroma—1 to 3
Texture—fine sandy loam
Reaction—moderately acid to neutral

BE or E horizon (where present):
Hue—10YR
Value—5 or 6
Chroma—1 or 2
Texture—fine sandy loam, sandy loam, or loam
Reaction—moderately acid to neutral

Bt or Btg horizon (upper part):
Hue—10YR or 2.5Y
Value—5 to 7
Chroma—1 to 6
Texture—sandy clay loam, loam, or fine sandy loam
Reaction—very strongly acid to slightly acid

Bt or Btg horizon (lower part) or BC or BCg horizon:
Hue—10YR or 2.5Y
Value—4 to 7
Chroma—1 to 6
Texture—fine sandy loam, sandy loam, clay loam, or sandy clay loam
Reaction—strongly acid to neutral

Cg or 2Cg horizon:
Hue—10YR to 2.5Y
Value—5 to 7
Chroma—1 or 2
Texture—fine sand, loamy fine sand, fine sandy loam, sandy loam, or loam with strata of silt to very fine sand
Reaction—neutral to moderately alkaline

Bartle Series

Taxonomic classification: Fine-silty, mixed, active, mesic Aeric Fragiaqualfs
Taxadjunct features: The Bartle soils in Jennings County do not have a subhorizon with a fragipan that has vertical streaks with a mean horizontal dimension of 4 inches or more. This difference, however, does not alter the usefulness or behavior of the soils. These soils are classified as fine-silty, mixed, active, mesic Aeric Fragic Epiaqualfs.

Typical Pedon

Bartle silt loam, in a nearly level area in a cultivated field; 625 feet north and 1,490 feet east of the southwest corner of section 19, T. 2 S., R. 5 E., Floyd County, Indiana; USGS Crandall, Indiana, topographic quadrangle; lat. 38 degrees 19 minutes 5 seconds N. and long. 86 degrees 0 minutes 33 seconds W., UTM Zone 16, 586618 easting and 4241575 northing, NAD 83.

Ap—0 to 8 inches; yellowish brown (10YR 5/4) silt loam, very pale brown (10YR 7/3) dry; moderate fine and medium granular structure; friable; common very fine and fine roots; neutral; abrupt smooth boundary.
EB—8 to 14 inches; pale brown (10YR 6/3) silt loam; weak fine subangular blocky structure; friable; few very fine roots; common fine and medium prominent spherical black (10YR 2/1) iron-manganese concretions throughout; common fine faint light brownish gray (10YR 6/2) iron depletions in the matrix; strongly acid; abrupt smooth boundary.
BEg—14 to 17 inches; light gray (10YR 7/2) silt loam; weak fine subangular blocky structure; friable; common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine and medium prominent spherical black (10YR 2/1) iron-manganese concretions throughout; strongly acid; clear smooth boundary.
Bt—17 to 30 inches; brown (10YR 5/3) silty clay loam; moderate fine subangular blocky structure; friable; many distinct light brownish gray (10YR 6/2) and common distinct brown (10YR 5/3) clay films on faces of peds and in pores; common fine and medium distinct spherical black (10YR 2/1) iron-manganese concretions throughout; many medium faint light brownish gray (10YR 6/2) iron depletions in the matrix; extremely acid; clear wavy boundary.
Btx—30 to 50 inches; brown (10YR 5/3) silt loam; weak medium prismatic structure parting to weak medium subangular blocky; firm; many distinct light brownish gray (10YR 6/2) clay films on vertical faces of peds; common medium faint light yellowish brown (10YR 6/4) and common fine prominent strong brown (7.5YR 5/8) masses of oxidized iron in the matrix; common fine and medium distinct spherical

black (10YR 2/1) iron-manganese concretions throughout; many medium faint light brownish gray (10YR 6/2) iron depletions in the matrix; 45 percent brittle; very strongly acid; clear wavy boundary.

BC1—50 to 66 inches; pale brown (10YR 6/3) silt loam; weak medium and coarse subangular blocky structure; firm; common prominent very dark gray (N 3/) iron-manganese masses in root channels; many medium faint light gray (10YR 7/2) iron depletions in the matrix; very strongly acid; clear wavy boundary.

BC2—66 to 80 inches; brownish yellow (10YR 6/8) silt loam; weak coarse subangular blocky structure; firm; common prominent very dark gray (N 3/) iron-manganese masses in root channels; many medium prominent light gray (10YR 7/2) iron depletions in the matrix; 5 percent gravel; very strongly acid.

Range in Characteristics

Thickness of the loess: 0 to 40 inches
Depth to a layer with fragic soil properties: 24 to 40 inches
Depth to the base of the argillic horizon: 48 to 72 inches

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam
Reaction—very strongly acid to neutral

A horizon (2 to 4 inches thick):
Hue—10YR
Value—3 or 4
Chroma—1
Texture—silt loam
Reaction—very strongly acid to neutral

EB, BE, or BEg horizon:
Hue—10YR
Value—5 to 7
Chroma—2 to 6
Texture—silt loam
Reaction—extremely acid to moderately acid

Bt or Btg horizon:
Hue—10YR
Value—5 to 7
Chroma—2 to 6; where chroma is 3 or more, 50 percent or more of the faces of peds have chroma of 1 or 2
Texture—silt loam or silty clay loam
Reaction—extremely acid to moderately acid

Btx or Btgx horizon:
Hue—10YR
Value—5 or 6
Chroma—1 to 6
Texture—silt loam or silty clay loam
Reaction—extremely acid to strongly acid

BC or BCg horizon:
Hue—10YR
Value—4 to 6
Chroma—1 to 8

Texture—silt loam, silty clay loam, or loam
Reaction—very strongly acid to neutral
Content of rock fragments—0 to 14 percent gravel

Birds Series

Taxonomic classification: Fine-silty, mixed, superactive, nonacid, mesic Typic Fluvaquents

Typical Pedon

Birds silt loam, in a nearly level area in a cultivated field; 600 feet west and 50 feet north of the center of section 13, T. 3 N., R. 12 W., Lawrence County, Illinois; USGS Lawrenceville, Illinois, topographic quadrangle; lat. 38 degrees 41 minutes 42.6 seconds N. and long. 87 degrees 41 minutes 45.9 seconds W., UTM Zone 16, 439467 easting and 4283182 northing, NAD 83.

Ap—0 to 6 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak fine granular structure; friable; neutral; abrupt smooth boundary.
ACg—6 to 22 inches; gray (10YR 6/1) silt loam; weak fine granular structure; friable; common fine distinct dark yellowish brown (10YR 4/4) and brown (10YR 5/3) masses of oxidized iron in the matrix; few very dark grayish brown (10YR 3/2) masses of iron-manganese accumulation; neutral; gradual smooth boundary.
Cg—22 to 60 inches; gray (10YR 6/1) silt loam; massive; friable; common medium and coarse distinct dark yellowish brown (10YR 4/4) and prominent light olive brown (2.5Y 5/4) masses of oxidized iron in the matrix; few brown (10YR 5/3) iron-manganese concretions; common medium and coarse faint grayish brown (10YR 5/2) iron depletions in the matrix; slightly alkaline.

Range in Characteristics

Ap, A, or ACg horizon:
Hue—10YR to 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silt loam
Reaction—moderately acid to neutral

Cg horizon:
Hue—10YR to 5Y
Value—4 to 7
Chroma—1 or 2
Texture—silt loam; strata of loam included below a depth of 40 inches
Reaction—moderately acid to slightly alkaline

Blocher Series

Taxonomic classification: Fine-silty, mixed, active, mesic Oxyaquic Hapludalfs
Taxadjunct features: The Blocher soils in map units BlcC3, BlgC3, and BnuD3 have more sand in the upper part of the subsoil than is defined as the range for the series. This difference, however, does not alter the usefulness or behavior of the soils. These soils are classified as fine-loamy, mixed, active, mesic Oxyaquic Hapludalfs.

Typical Pedon

Blocher silt loam, on a slope of 9 percent in a hayfield; 390 feet east and 720 feet north of the southwest corner of section 3, T. 4 N., R. 7 E., Scott County, Indiana; USGS Deputy, Indiana, topographic quadrangle; lat. 38 degrees 48 minutes 38.324 seconds

N. and long. 85 degrees 44 minutes 18.067 seconds W., UTM Zone 16, 609543.029 easting and 4296512.536 northing, NAD 83.

Ap—0 to 6 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate fine and medium granular structure; friable; many very fine and fine roots; moderately acid; abrupt smooth boundary.

Bt1—6 to 17 inches; strong brown (7.5YR 5/6) silty clay loam; moderate fine and medium subangular blocky structure; friable; common very fine and fine roots; many distinct brown (7.5YR 5/4) clay films on faces of peds; common distinct dark yellowish brown (10YR 4/4) organic coatings in root channels; few distinct yellowish brown (10YR 5/4) silt coatings on faces of peds; very strongly acid; clear wavy boundary.

2Bt2—17 to 24 inches; strong brown (7.5YR 5/6) clay loam; strong fine and medium subangular blocky structure; firm; common very fine roots; common prominent dark yellowish brown (10YR 4/4) and very few prominent grayish brown (10YR 5/2) clay films on faces of peds; many distinct pale brown (10YR 6/3) silt coatings on faces of peds; 1 percent gravel; very strongly acid; gradual wavy boundary.

2Bt3—24 to 33 inches; yellowish brown (10YR 5/6) clay loam; strong fine and medium angular blocky structure; very firm; few very fine roots between peds; many distinct strong brown (7.5YR 5/6), common prominent grayish brown (10YR 5/2), and few distinct brown (7.5YR 4/4) clay films on faces of peds; common medium prominent light brownish gray (10YR 6/2) iron depletions in the matrix; 8 percent gravel; very strongly acid; clear wavy boundary.

2Bt4—33 to 44 inches; strong brown (7.5YR 5/6) clay; strong fine and medium angular blocky structure; very firm; few very fine roots between peds; many distinct strong brown (7.5YR 4/6) and few prominent grayish brown (10YR 5/2) clay films on faces of peds; few fine prominent light brownish gray (10YR 6/2) iron depletions in the matrix; 10 percent gravel; strongly acid; gradual wavy boundary.

2Bt5—44 to 53 inches; yellowish brown (10YR 5/6) clay loam; moderate fine and medium subangular blocky structure; very firm; many distinct dark yellowish brown (10YR 4/4) and few distinct grayish brown (10YR 5/2) clay films on faces of peds; common medium prominent irregular black masses of manganese lining pores; 3 percent gravel; slightly acid; gradual wavy boundary.

2Bt6—53 to 62 inches; yellowish brown (10YR 5/6) clay loam; moderate fine and medium subangular blocky structure; firm; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; few medium prominent irregular black masses of manganese lining pores; 3 percent gravel; neutral; gradual wavy boundary.

2BCt—62 to 76 inches; yellowish brown (10YR 5/6) clay loam; weak fine and medium subangular blocky structure; firm; very few distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; few medium prominent irregular black masses of manganese lining pores; 3 percent gravel; neutral; gradual wavy boundary.

2C—76 to 80 inches; yellowish brown (10YR 5/4) loam (65 percent) with pockets of clay loam (35 percent); common coarse distinct strong brown (7.5YR 5/6) mottles; massive; friable; common medium and coarse prominent irregular black masses of manganese lining pores; 3 percent gravel; slightly alkaline.

Range in Characteristics

Thickness of the loess and loamy material: 16 to 36 inches
Depth to the base of the argillic horizon: 50 to 80 inches
Depth to bedrock (paralithic contact): 60 to 80 inches in the soft bedrock substratum phase
Depth to bedrock (lithic contact): 60 to 80 inches in the hard bedrock substratum phase

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—3 to 6
Texture—silt loam or silty clay loam
Reaction—very strongly acid to neutral

A horizon (2 to 5 inches thick) (where present):
Hue—10YR
Value—3 or 4
Chroma—2 or 3
Texture—silt loam
Reaction—very strongly acid or strongly acid

Bt horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 to 6
Texture—silt loam or silty clay loam; ranges to loam in the lower part
Reaction—very strongly acid or strongly acid; ranges to slightly acid in the upper part in areas that have been limed

2Bt horizon:
Hue—7.5YR or 10YR
Value—5
Chroma—4 to 8
Texture—clay loam or clay
Reaction—very strongly acid or strongly acid in the upper part; ranges to neutral in the lower part
Content of rock fragments—3 to 10 percent gravel; range includes cobbles

2BCt horizon:
Hue—7.5YR or 10YR
Value—5
Chroma—4 to 8
Texture—clay loam or clay
Reaction—moderately acid to slightly alkaline
Content of rock fragments—3 to 10 percent gravel; range includes cobbles

2C horizon:
Hue—10YR
Value—5 or 6
Chroma—3 or 4
Texture—loam or clay loam
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—3 to 10 percent gravel; range includes cobbles

Bloomfield Series

Taxonomic classification: Sandy, mixed, mesic Lamellic Hapludalfs

Typical Pedon

Bloomfield fine sand, in a pastured area of Bloomfield-Alvin complex, 6 to 15 percent slopes, eroded; 2,690 feet south and 1,214 feet west of the northeast corner of section 32, T. 6 N., R. 5 E., Jackson County, Indiana; USGS Seymour, Indiana, topographic quadrangle; lat. 38 degrees 54 minutes 52.209 seconds N. and long. 85 degrees 59

minutes 8.008 seconds W., UTM Zone 16, 587947 easting and 4307778 northing, NAD 83.

A—0 to 10 inches; brown (10YR 4/3) fine sand, pale brown (10YR 6/3) dry; single grain; loose; moderately acid; abrupt smooth boundary.

Bt and E—10 to 39 inches; strong brown (7.5YR 4/6) lamellae of loamy fine sand (Bt); massive; very friable; yellowish brown (10YR 5/4) fine sand (E); single grain; loose; common very fine roots; lamellae are 1 to 3 inches apart, are 0.5 inch to 4.0 inches thick, and have a cumulative thickness of 17 inches; clay bridging connects sand grains in the lamellae; lamellae are discontinuous and wavy; slightly acid; gradual wavy boundary.

E and Bt—39 to 80 inches; yellowish brown (10YR 5/4) fine sand (E); single grain; loose; strong brown (7.5YR 4/6) lamellae of loamy fine sand and fine sand (Bt); massive; very friable; lamellae are 2 to 6 inches apart, are 0.25 inch to 2.0 inches thick, and have a cumulative thickness of 14 inches; clay bridging connects sand grains in the lamellae; lamellae are discontinuous and wavy; slightly acid; gradual irregular boundary.

2C—80 to 90 inches; light yellowish brown (10YR 6/4) fine sand; single grain; loose; slightly effervescent; moderately alkaline.

Range in Characteristics

Depth to the base of soil development: 48 to more than 80 inches

Other features: The argillic horizon occurs as lamellae and banded layers up to 8 inches in thickness. The combined thickness of the lamellae above a depth of 60 inches is more than 15 inches.

Ap or A horizon:

Hue—10YR
Value—4
Chroma—3 or 4
Texture—sand or fine sand
Reaction—strongly acid to neutral, depending upon liming history

E, EB, or BE horizon (where present):

Hue—7.5YR or 10YR
Value—4 to 6
Chroma—2 to 4
Texture—very fine sandy loam, fine sandy loam, sandy loam, or loamy fine sand
Reaction—very strongly acid to neutral, depending on liming history

E part of E and Bt horizon (where present):

Hue—7.5YR or 10YR
Value—5 or 6
Chroma—4 to 6
Texture—sand or fine sand

Bt part of E and Bt horizon (where present):

Material—bands or lamellae of variable thickness
Hue—7.5YR
Value—4 or 5
Chroma—4 to 6
Texture—loamy sand or loamy fine sand
Reaction—strongly acid to neutral

BC or C horizon (where present):

Hue—10YR
Value—6 or 7

Chroma—3 to 6
Texture—fine sand, sand, or loamy fine sand
Reaction—strongly acid to moderately alkaline

Bobtown Series

Taxonomic classification: Fine-loamy, mixed, active, mesic Aquultic Hapludalfs

Typical Pedon

Bobtown loamy fine sand, in a nearly level area with convex slopes in a cultivated field; 60 feet south and 1,120 feet west of the center of section 15, T. 6 N., R. 6 E., Jackson County, Indiana; USGS Chestnut Ridge, Indiana, topographic quadrangle; lat. 38 degrees 57 minutes 42.589 seconds N. and long. 85 degrees 50 minutes 51.004 seconds W., UTM Zone 16, 599852 easting and 4313172 northing, NAD 83.

Ap—0 to 9 inches; dark yellowish brown (10YR 4/4) loamy fine sand, light yellowish brown (10YR 6/4) dry; weak fine subangular blocky structure parting to weak fine granular; very friable; common fine and very fine roots; strongly acid; abrupt wavy boundary.

E—9 to 13 inches; yellowish brown (10YR 5/6) fine sandy loam; weak fine subangular blocky structure parting to weak fine granular; very friable; few very fine roots; strongly acid; clear wavy boundary.

EB—13 to 20 inches; yellowish brown (10YR 5/6) fine sandy loam; weak medium subangular blocky structure; friable; few very fine roots; common fine distinct brown (10YR 4/3) masses of oxidized iron; few fine prominent black (N 2.5/) iron-manganese masses; strongly acid; clear wavy boundary.

Bt1—20 to 29 inches; strong brown (7.5YR 5/8) fine sandy loam; moderate medium and fine subangular blocky structure; firm; few very fine roots; common distinct yellowish brown (10YR 5/4) clay films on faces of peds; few fine prominent black (N 2.5/) iron-manganese masses; common fine prominent light gray (10YR 7/2) iron depletions; very strongly acid; gradual wavy boundary.

Bt2—29 to 38 inches; yellowish brown (10YR 5/4) sandy clay loam; weak medium and coarse subangular blocky structure; firm; few very fine roots; common distinct pale brown (10YR 6/3) clay films on faces of peds; common medium prominent strong brown (7.5YR 5/8) masses of oxidized iron; few fine prominent black (N 2.5/) iron-manganese masses; many medium distinct light gray (10YR 7/2) and few medium distinct gray (10YR 6/1) iron depletions; very strongly acid; gradual wavy boundary.

Bt3—38 to 52 inches; pale brown (10YR 6/3) fine sandy loam; weak coarse subangular blocky structure; very friable; few very fine roots; clay bridging between sand grains; many medium prominent strong brown (7.5YR 5/8) masses of oxidized iron; common fine prominent black (N 2.5/) and strong brown (7.5YR 4/6) iron-manganese masses; many coarse faint light gray (10YR 7/2) iron depletions; very strongly acid; gradual wavy boundary.

BC—52 to 61 inches; pale brown (10YR 6/3) loamy sand; massive; very friable; many fine prominent black (N 2.5/) iron-manganese masses; many medium faint light gray (10YR 7/2) iron depletions; very strongly acid; gradual wavy boundary.

C—61 to 80 inches; yellowish brown (10YR 5/4), stratified loamy sand, loamy fine sand, and fine sand; massive; very friable; common medium distinct strong brown (7.5YR 5/6) masses of oxidized iron; many coarse distinct light gray (10YR 7/2) and common medium faint pale brown (10YR 6/3) iron depletions; strongly acid.

Range in Characteristics

Thickness of the solum: 48 to 70 inches
Content of clay in the particle-size control section: Averages 18 to 26 percent

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—3 or 4
Texture—loamy fine sand
Reaction—very strongly acid to slightly acid

E or EB horizon:
Hue—10YR
Value—4 to 7
Chroma—4 to 8
Texture—fine sandy loam or loamy fine sand
Reaction—very strongly acid to moderately acid

Bt horizon:
Hue—7.5YR or 10YR
Value—5 to 7
Chroma—3 to 8
Texture—sandy clay loam or fine sandy loam
Reaction—very strongly acid or strongly acid

BC horizon:
Hue—10YR
Value—5 to 7
Chroma—3 to 6
Texture—loamy sand or loamy fine sand
Reaction—very strongly acid or strongly acid

C horizon:
Hue—10YR
Value—5 to 7
Chroma—3 to 6
Texture—stratified loamy sand, loamy fine sand, or fine sand; dominantly fine sand below a depth of 80 inches
Reaction—very strongly acid to moderately acid

Bonnell Series

Taxonomic classification: Fine, mixed, active, mesic Typic Hapludalfs

Typical Pedon

Bonnell silt loam, on an east-facing, convex slope of 25 percent in a forested area; 700 feet north and 2,000 feet east of the southwest corner of section 14, T. 4 N., R. 3 W., Ohio County, Indiana; USGS Bear Branch, Indiana, topographic quadrangle; lat. 38 degrees 55 minutes 8.135 seconds N. and long. 85 degrees 4 minutes 21.985 seconds W., UTM Zone 16, 667078.085 easting and 4309545.637 northing, NAD 83.

A—0 to 3 inches; very dark gray (10YR 3/1) silt loam, light brownish gray (10YR 6/2) dry; moderate fine granular structure; friable; many coarse roots; very strongly acid; clear smooth boundary.
EB—3 to 6 inches; dark grayish brown (10YR 4/2) silt loam; moderate medium granular structure; friable; many fine and coarse roots; very strongly acid; clear wavy boundary.
Bt1—6 to 9 inches; yellowish brown (10YR 5/4) loam; weak medium subangular blocky structure; friable; common fine and medium roots; few faint yellowish brown (10YR 5/4) clay films on faces of peds; strongly acid; clear wavy boundary.

2Bt2—9 to 26 inches; brown (7.5YR 4/4) clay; moderate medium angular blocky structure; firm; common fine and medium roots; many distinct brown (7.5YR 4/4) clay films on faces of peds; very strongly acid; clear wavy boundary.

2Bt3—26 to 36 inches; dark yellowish brown (10YR 4/4) clay; moderate medium subangular and angular blocky structure; firm; common fine and medium roots; many distinct brown (7.5YR 4/4) clay films on faces of peds; few fine distinct black (10YR 2/1) iron-manganese concretions throughout; 4 percent gravel; very strongly acid; clear wavy boundary.

2Bt4—36 to 44 inches; yellowish brown (10YR 5/4) clay loam; moderate medium subangular blocky structure; firm; few fine and medium roots; many distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; few fine distinct black (10YR 2/1) iron-manganese concretions throughout; 3 percent gravel; very strongly acid; clear wavy boundary.

2Bt5—44 to 60 inches; dark yellowish brown (10YR 4/4) clay loam; weak coarse subangular blocky structure; firm; few fine and medium roots; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; few fine distinct black (10YR 2/1) iron-manganese concretions throughout; 3 percent gravel; strongly acid in the upper part and slightly acid in the lower part; gradual wavy boundary.

2BCt—60 to 70 inches; brown (10YR 5/3) clay loam; weak coarse subangular blocky structure; firm; few distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; common fine distinct black (10YR 2/1) iron-manganese concretions throughout; 5 percent gravel; strongly effervescent; slightly alkaline; gradual wavy boundary.

2C—70 to 80 inches; brown (10YR 5/3) clay loam; massive; firm; 5 percent gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the loess: Less than 18 inches
Depth to the base of the argillic horizon: 40 to 65 inches

A horizon (2 to 5 inches thick):
Hue—10YR
Value—2 to 4
Chroma—1 or 2
Texture—silt loam
Reaction—very strongly acid or strongly acid

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 6
Texture—silt loam or clay loam
Reaction—very strongly acid to neutral

EB or BE horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam or loam
Reaction—very strongly acid or strongly acid

Bt horizon:
Hue—10YR
Value—5
Chroma—4 to 6

Texture—loam, silt loam, or silty clay loam
Reaction—very strongly acid or strongly acid

2Bt horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 to 8
Texture—clay loam or clay
Reaction—very strongly acid or strongly acid in the upper part; moderately acid to slightly alkaline in the lower part
Content of rock fragments—3 to 5 percent pebbles; range includes cobbles

2BCt horizon:
Hue—10YR
Value—5
Chroma—3 to 6
Texture—clay loam or loam
Reaction—slightly alkaline or neutral; less commonly slightly acid
Content of rock fragments—3 to 8 percent pebbles; range includes cobbles

2C horizon:
Hue—10YR
Value—5 or 6
Chroma—3 to 6
Texture—loam or clay loam
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—3 to 8 percent pebbles

Bonnie Series

Taxonomic classification: Fine-silty, mixed, active, acid, mesic Typic Fluvaquents

Typical Pedon

Bonnie silt loam, on a slope of 0.5 percent in a cultivated field; 1,160 feet west and 1,385 feet north of the center of section 9, T. 4 N., R. 7 E., Scott County, Indiana; USGS Scottsburg, Indiana, topographic quadrangle; lat. 38 degrees 48 minutes 18.151 seconds N. and long. 85 degrees 45 minutes 10.776 seconds W., UTM Zone 16, 608277.955 easting and 4295879.475 northing, NAD 83.

Ap—0 to 9 inches; brown (10YR 5/3) silt loam, very pale brown (10YR 7/3) dry; moderate medium granular structure; friable; common very fine roots; few fine spherical iron-manganese concretions throughout; common fine faint light brownish gray (10YR 6/2) iron depletions in the matrix; slightly acid; abrupt smooth boundary.

Cg1—9 to 20 inches; light brownish gray (10YR 6/2) silt loam; weak thick platy structure; friable; few very fine roots; common medium faint pale brown (10YR 6/3) masses of oxidized iron in the matrix; common prominent yellowish red (5YR 4/6) masses of oxidized iron lining pores and root channels; few fine spherical iron-manganese concretions throughout; common fine irregular iron nodules; slightly acid; gradual wavy boundary.

Cg2—20 to 31 inches; light gray (10YR 7/2) silt loam; massive; friable; few very fine roots; common medium prominent yellowish brown (10YR 5/6) and few faint pale brown (10YR 6/3) masses of oxidized iron in the matrix; few prominent yellowish red (5YR 4/6) masses of oxidized iron lining pores and root channels; few fine spherical iron-manganese concretions throughout; few fine irregular iron nodules; strongly acid; gradual wavy boundary.

Cg3—31 to 47 inches; gray (10YR 6/1) silt loam; massive; friable; few medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common prominent yellowish red (5YR 4/6) masses of oxidized iron lining pores and root channels; few medium irregular iron-manganese concretions throughout; common fine irregular iron nodules; strongly acid; gradual wavy boundary.

Cg4—47 to 60 inches; light gray (10YR 7/1) silt loam; massive; friable; common medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine prominent yellowish red (5YR 5/8) masses of oxidized iron lining pores; common fine irregular iron nodules throughout; strongly acid.

Range in Characteristics

Ap or A horizon:
Hue—10YR
Value—4 to 6
Chroma—1 to 3
Texture—silt loam
Reaction—very strongly acid to neutral

Cg horizon:
Hue—10YR, 2.5Y, or N
Value—5 to 7
Chroma—0 to 2
Texture—silt loam; silty clay loam included below a depth of 40 inches
Reaction—commonly very strongly acid or strongly acid; ranges to slightly acid in the lower part

Caneyville Series

Taxonomic classification: Fine, mixed, active, mesic Typic Hapludalfs

Typical Pedon

Caneyville silt loam (fig. 21), on a slope of 12 percent in a pasture; 680 feet west and 2,290 feet south of the northeast corner of section 20, T. 6 N., R. 1 W., Lawrence County, Indiana; USGS Bartlettsville, Indiana, topographic quadrangle; lat. 38 degrees 56 minutes 28.813 seconds N. and long. 86 degrees 25 minutes 32.632 seconds W., UTM Zone 16, 549768 easting and 4310425 northing, NAD 83.

Ap—0 to 8 inches; 90 percent brown (10YR 4/3) and 10 percent dark yellowish brown (10YR 4/4) silt loam, light yellowish brown (10YR 6/4) dry; moderate medium granular structure; friable; many fine roots; neutral; abrupt smooth boundary.

Bt1—8 to 14 inches; dark yellowish brown (10YR 4/4) silt loam; common medium faint yellowish brown (10YR 5/4) mottles; moderate medium subangular blocky structure; friable; few fine roots; many faint dark yellowish brown (10YR 4/4) clay films on faces of peds; neutral; clear wavy boundary.

2Bt2—14 to 33 inches; yellowish red (5YR 4/6) silty clay; strong coarse angular blocky structure; firm; many distinct yellowish red (5YR 5/8) clay films on faces of peds; 1-inch layer of dark yellowish brown (10YR 4/4) clay at a depth of 32 inches; strongly acid in the upper part and neutral at a depth of 32 inches; abrupt smooth boundary.

2R—33 to 60 inches; indurated limestone bedrock.

Range in Characteristics

Thickness of the solum and depth to bedrock (lithic contact): 20 to 40 inches
Thickness of the loess: 0 to 18 inches

Figure 21.—Profile of a Caneyville soil. Depth is marked in inches.

Ap horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 to 6
Texture—silt loam or silty clay loam
Reaction—strongly acid to neutral
Content of rock fragments—0 to 5 percent chert gravel

A horizon:
Hue—7.5YR or 10YR
Value—3 to 5
Chroma—2 or 3
Texture—silt loam
Reaction—strongly acid to neutral
Content of rock fragments—0 to 5 percent chert gravel

Bt horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 to 8
Texture—silt loam or silty clay loam
Reaction—very strongly acid to neutral
Content of rock fragments—0 to 5 percent chert gravel

2Bt horizon:
Hue—5YR or 7.5YR; less commonly 2.5YR
Value—4 or 5
Chroma—4 to 8
Texture—silty clay or clay

Reaction—strongly acid to neutral; ranges to slightly alkaline in the lower part
Content of rock fragments—0 to 14 percent chert gravel

Cincinnati Series

Taxonomic classification: Fine-silty, mixed, active, mesic Oxyaquic Fragiudalfs

Typical Pedon

Cincinnati silt loam, on a slope of 7 percent in a hayfield; 550 feet south and 320 feet east of the northwest corner of section 13, T. 2 N., R. 8 E., Scott County, Indiana; USGS New Washington, Indiana, topographic quadrangle; lat. 38 degrees 37 minutes 8.53 seconds N. and long. 85 degrees 35 minutes 15.37 seconds W., UTM Zone 16, 622957.376 easting and 4275451.722 northing, NAD 83.

Ap—0 to 8 inches; 85 percent brown (10YR 4/3) and 15 percent yellowish brown (10YR 5/6) silt loam, pale brown (10YR 6/3) dry; weak medium subangular blocky structure parting to moderate medium granular; friable; many very fine and fine roots; moderately acid; abrupt smooth boundary.

Bt—8 to 24 inches; yellowish brown (10YR 5/6) silt loam; moderate medium subangular blocky structure; friable; common very fine and fine roots; many distinct dark yellowish brown (10YR 4/6) clay films on faces of peds; strongly acid; clear wavy boundary.

2Btx1—24 to 36 inches; yellowish brown (10YR 5/6) silt loam; moderate very coarse prismatic structure; firm; few very fine roots between peds; many distinct grayish brown (10YR 5/2) and common distinct strong brown (7.5YR 5/6) clay films on vertical faces of peds; few fine prominent light brownish gray (10YR 6/2) iron depletions in the matrix; 1 percent gravel; brittle; very strongly acid; gradual wavy boundary.

2Btx2—36 to 51 inches; brownish yellow (10YR 6/6) loam; moderate very coarse prismatic structure; very firm; common prominent grayish brown (10YR 5/2) clay films on vertical faces of peds; common fine prominent light brownish gray (10YR 6/2) iron depletions in the matrix; 2 percent gravel; brittle; strongly acid; gradual wavy boundary.

2Btx3—51 to 74 inches; yellowish brown (10YR 5/6) loam; weak coarse prismatic structure; firm; common distinct grayish brown (10YR 5/2) clay films on vertical faces of peds; common fine prominent light brownish gray (10YR 6/2) iron depletions in the matrix; 5 percent gravel; brittle; very strongly acid; diffuse wavy boundary.

3Bt—74 to 80 inches; strong brown (7.5YR 5/8) clay loam; weak coarse subangular blocky structure; firm; common prominent gray (10YR 6/1) clay films on faces of peds; 3 percent gravel; strongly acid.

Range in Characteristics

Thickness of the loess or silty material: 18 to 40 inches
Depth to a fragipan: 20 to 36 inches; 10 to 20 inches in severely eroded areas

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—3 or 4
Texture—silt loam
Reaction—very strongly acid to neutral

Bt horizon (formed in loess):
Hue—7.5YR or 10YR
Value—4 or 5

Chroma—4 to 8
Texture—silt loam or silty clay loam
Reaction—very strongly acid or strongly acid

2Btx horizon (formed in pedisediments):
Hue—10YR
Value—5 or 6
Chroma—4 to 6
Texture—silt loam or loam
Reaction—very strongly acid to moderately acid
Content of rock fragments—0 to 5 percent gravel

3Bt horizon (formed in till):
Hue—7.5YR or 10YR
Value—5 or 6
Chroma—4 to 8
Texture—clay loam or loam
Reaction—very strongly acid to slightly acid
Content of rock fragments—3 to 10 percent gravel

Cobbsfork Series

Taxonomic classification: Fine-silty, mixed, active, mesic Fragic Glossaqualfs

Typical Pedon

Cobbsfork silt loam, on a slope of 0.5 percent in a cultivated field; 150 feet west and 1,300 feet north of the southeast corner of section 2, T. 5 N., R. 10 E., Jefferson County, Indiana; USGS Rexville, Indiana, topographic quadrangle; lat. 38 degrees 54 minutes 6.267 seconds N. and long. 85 degrees 22 minutes 12.885 seconds W., UTM Zone 16, 641322 easting and 4307133 northing, NAD 83.

Ap1—0 to 6 inches; grayish brown (10YR 5/2) silt loam, light gray (10YR 7/2) dry; weak fine granular structure; friable; many fine roots; many fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few fine prominent strong brown (7.5YR 4/6) masses of oxidized iron lining tubular pores; common fine faint gray (10YR 6/1) iron depletions in the matrix; neutral; abrupt smooth boundary.

Ap2—6 to 12 inches; grayish brown (10YR 5/2) silt loam, light gray (10YR 7/2) dry; weak very thick platy structure; friable; few fine roots; few fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few fine prominent strong brown (7.5YR 4/6) masses of oxidized iron lining tubular pores; common fine faint gray (10YR 6/1) iron depletions in the matrix; slightly acid; abrupt smooth boundary.

EBg—12 to 18 inches; light gray (10YR 7/1) silt loam; weak medium subangular blocky structure; friable; few fine roots; common medium prominent strong brown (7.5YR 5/8) masses of oxidized iron in the matrix; few fine prominent yellowish red (5YR 5/8) masses of oxidized iron lining tubular pores; few fine spherical very dark brown (10YR 2/2) strongly cemented iron-manganese concretions throughout; strongly acid; gradual wavy boundary.

Btg—18 to 27 inches; light brownish gray (10YR 6/2) silt loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; few fine roots between peds; common distinct grayish brown (10YR 5/2) clay films on faces of peds (dominantly vertical); common fine prominent strong brown (7.5YR 5/8) and brownish yellow (10YR 6/6) masses of oxidized iron in the matrix; few fine prominent strong brown (7.5YR 5/8) masses of oxidized iron lining tubular pores;

few fine spherical very dark brown (10YR 2/2) strongly cemented iron-manganese concretions throughout; many faint gray (10YR 6/1) clay depletions on faces of peds; very strongly acid; gradual wavy boundary.

Btg/Eg—27 to 38 inches; 60 percent light brownish gray (10YR 6/2) silt loam (Btg); moderate medium and coarse prismatic structure parting to moderate medium subangular blocky; firm; few fine roots between peds; common distinct gray (10YR 6/1) clay films on vertical faces of peds; common fine prominent strong brown (7.5YR 5/8) and brownish yellow (10YR 6/6) masses of oxidized iron in the matrix; few fine prominent yellowish red (5YR 5/8) masses of oxidized iron lining tubular pores; 40 percent light gray (10YR 7/2) silt loam (Eg); weak medium subangular blocky structure; friable; few fine roots throughout; few fine prominent yellowish red (5YR 5/8) masses of oxidized iron lining tubular pores; few fine spherical very dark brown (10YR 2/2) strongly cemented iron-manganese concretions throughout; krotovinas; very strongly acid; gradual wavy boundary.

2Eg/Btgx—38 to 50 inches; 60 percent light gray (10YR 7/2) silt loam (Eg); weak fine subangular blocky structure; friable; common fine roots throughout; common medium prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; few medium prominent spherical black (10YR 2/1) strongly cemented iron-manganese concretions; 40 percent light brownish gray (10YR 6/2) silt loam (Btgx); moderate coarse prismatic structure parting to moderate medium angular blocky; firm; brittle; few fine roots between peds; common prominent gray (10YR 6/1) clay films on vertical faces of peds; common fine distinct yellowish brown (10YR 5/4) and prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; few fine prominent yellowish red (5YR 4/6) masses of oxidized iron lining tubular pores; common fine prominent black (10YR 2/1) mangans lining pores; few fine prominent spherical very dark brown (10YR 2/2) strongly cemented iron-manganese concretions throughout; krotovinas; 1 percent gravel; very strongly acid; gradual wavy boundary.

2Btx—50 to 85 inches; yellowish brown (10YR 5/4) silt loam; weak medium and coarse prismatic structure parting to weak medium subangular blocky; firm; common faint gray (10YR 6/1) clay films on vertical faces of peds; few fine faint light yellowish brown (10YR 6/4) masses of oxidized iron in the matrix; common medium distinct spherical black (10YR 2/1) strongly cemented iron-manganese concretions; many faint gray (10YR 6/1) clay depletions on vertical faces of peds; 2 percent gravel; 70 percent brittle; very strongly acid; diffuse wavy boundary.

3Btb—85 to 90 inches; strong brown (7.5YR 5/8) clay loam; weak coarse subangular blocky structure; firm; few prominent light brownish gray (2.5Y 6/2) clay films on faces of peds; common medium prominent spherical very dark gray (10YR 3/1) strongly cemented iron-manganese concretions; common fine and medium prominent gray (10YR 6/1) iron depletions in the matrix; 4 percent gravel; slightly acid.

Range in Characteristics

Thickness of the loess: 75 to 96 inches
Depth to the top of the glossic horizon: 24 to 36 inches
Depth to a layer with fragic soil properties: 36 to 45 inches
Depth to the base of the argillic horizon: More than 80 inches

Ap horizon:
Hue—10YR
Value—4 to 6
Chroma—2 or 3
Texture—silt loam
Reaction—very strongly acid to neutral

A horizon (where present):
Hue—10YR
Value—3 to 5 (where value is 3, thickness is 1 to 4 inches)
Chroma—1 or 2
Texture—silt loam
Reaction—very strongly acid or strongly acid

EBg or BEg horizon:
Hue—10YR or 2.5Y
Value—5 to 7
Chroma—1 or 2
Texture—silt loam
Reaction—very strongly acid or strongly acid; ranges to slightly acid in areas that have been limed

Btg horizon:
Hue—10YR
Value—6 or 7
Chroma—1 or 2
Texture—silt loam or silty clay loam
Reaction—extremely acid or very strongly acid

Btg part of Btg/Eg horizon:
Hue—10YR
Value—5 to 7
Chroma—1 or 2
Texture—silt loam or silty clay loam
Reaction—extremely acid or very strongly acid

Eg part of Btg/Eg horizon:
Hue—10YR or 2.5Y
Value—6 or 7
Chroma—1 or 2
Texture—silt loam
Reaction—extremely acid or very strongly acid

Eg part of 2Eg/Btgx horizon:
Hue—10YR or 2.5Y
Value—6 or 7
Chroma—1 or 2
Texture—silt loam
Reaction—extremely acid or very strongly acid
Content of rock fragments—1 to 2 percent gravel

Btgx part of 2Eg/Btgx horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—1 or 2
Texture—silt loam or silty clay loam
Reaction—extremely acid or very strongly acid
Content of rock fragments—1 to 2 percent gravel

2Btx or 2Btgx horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—1 to 6
Texture—silt loam

Reaction—extremely acid to strongly acid
Content of rock fragments—1 to 2 percent gravel

3Btb or 3Btgb horizon:
Hue—7.5YR or 10YR
Value—5 or 6
Chroma—1 to 8
Texture—clay loam
Reaction—commonly strongly acid or moderately acid in the upper part; ranges to neutral in the lower part
Content of rock fragments—2 to 10 percent gravel

Cuba Series

Taxonomic classification: Fine-silty, mixed, active, mesic Fluventic Dystrudepts

Typical Pedon

Cuba silt loam, in a nearly level area in a cultivated field; 210 feet east and 1,710 feet north of the center of section 28, T. 1 N., R. 3 W., Dubois County, Indiana; USGS Cuzco, Indiana, topographic quadrangle; lat. 38 degrees 29 minutes 40.721 seconds N. and long. 86 degrees 44 minutes 44.142 seconds W., UTM Zone 16, 522188 easting and 4260713 northing, NAD 83.

Ap—0 to 10 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate medium granular structure; friable; many fine roots; neutral; abrupt smooth boundary.
Bw1—10 to 21 inches; dark yellowish brown (10YR 4/4) silt loam; weak fine subangular blocky structure parting to moderate medium granular; friable; few fine roots; few distinct brown (10YR 4/3) organic coatings on faces of peds; very strongly acid; gradual wavy boundary.
Bw2—21 to 47 inches; yellowish brown (10YR 5/4) silt loam; weak medium subangular blocky structure parting to moderate medium granular; friable; very strongly acid; clear wavy boundary.
C—47 to 60 inches; brown (10YR 5/3) silt loam; common medium distinct light brownish gray (10YR 6/2) and yellowish brown (10YR 5/6) mottles; massive; friable; few fine distinct black (10YR 2/1) iron-manganese concretions; very strongly acid.

Range in Characteristics

Depth to the base of the cambic horizon: 30 to 54 inches

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam
Reaction—very strongly acid to neutral
Content of rock fragments—0 to 3 percent gravel

A horizon (1 to 2 inches thick) (where present):
Hue—10YR
Value—3 or 4
Chroma—1 or 2
Texture—silt loam

Reaction—very strongly acid or strongly acid
Content of rock fragments—0 to 3 percent gravel

Bw horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 to 6
Texture—silt loam
Reaction—very strongly acid or strongly acid
Content of rock fragments—0 to 3 percent gravel

C horizon:
Hue—10YR
Value—4 to 6
Chroma—3 to 6
Texture—silt loam or loam; sandy loam, fine sandy loam, and thin strata of loamy sand included below a depth of 40 inches
Reaction—very strongly acid or strongly acid
Content of rock fragments—0 to 14 percent gravel

Cyclone Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Argiaquolls

Typical Pedon

Cyclone silty clay loam, on a planar slope of less than 1 percent in a cultivated field; 1,800 feet west and 1,900 feet south of the northeast corner of section 1, T. 9 N., R. 6 E., Bartholomew County, Indiana; USGS Hope, Indiana, topographic quadrangle; lat. 39 degrees 15 minutes 19.385 seconds N. and long. 85 degrees 48 minutes 20.751 seconds W., UTM Zone 16, 603038 easting and 4345797 northing, NAD 83.

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) silty clay loam, grayish brown (10YR 5/2) dry; weak medium subangular blocky structure parting to moderate medium granular; friable; neutral; abrupt smooth boundary.

A—8 to 17 inches; very dark gray (10YR 3/1) silty clay loam; moderate fine and medium subangular blocky structure; firm; common fine prominent yellowish red (5YR 5/6) masses of oxidized iron in the matrix; neutral; clear wavy boundary.

Btg1—17 to 20 inches; dark grayish brown (2.5Y 4/2) silty clay loam; moderate medium subangular blocky structure; firm; common fine roots; common fine pores; common distinct very dark gray (10YR 3/1) clay films on faces of peds; common fine and medium distinct olive brown (2.5Y 4/4) masses of oxidized iron in the matrix; neutral; gradual wavy boundary.

Btg2—20 to 24 inches; dark grayish brown (2.5Y 4/2) silty clay loam; moderate medium and coarse subangular blocky structure; firm; few fine roots; common fine pores; few distinct dark gray (10YR 4/1) clay films on faces of peds; many medium distinct dark yellowish brown (10YR 4/4) masses of iron in the matrix; few fine distinct black (10YR 2/1) iron-manganese concretions in the matrix; neutral; gradual wavy boundary.

Btg3—24 to 36 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium subangular blocky structure; firm; few fine roots; common fine pores; few distinct dark gray (10YR 4/1) clay films on faces of peds; many medium prominent dark yellowish brown (10YR 4/6) masses of oxidized iron in the matrix; few fine prominent black (10YR 2/1) iron-manganese concretions in the matrix; many medium faint grayish brown (10YR 5/2) iron depletions in the matrix; neutral; gradual wavy boundary.

Bt1—36 to 52 inches; light olive brown (2.5Y 5/3) silty clay loam; moderate medium subangular blocky structure; firm; few fine roots; common fine pores; few distinct dark grayish brown (10YR 4/2) clay films on faces of peds; many medium prominent dark yellowish brown (10YR 4/6) masses of oxidized iron in the matrix; few fine prominent black (10YR 2/1) iron-manganese concretions in the matrix; many medium faint grayish brown (10YR 5/2) iron depletions in the matrix; neutral; gradual wavy boundary.

2Bt2—52 to 58 inches; light olive brown (2.5Y 5/3) silty clay loam; moderate medium subangular blocky structure; firm; few distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; many medium prominent dark yellowish brown (10YR 4/6) masses of oxidized iron in the matrix; many medium faint grayish brown (10YR 5/2) iron depletions in the matrix; 2 percent rock fragments; neutral; clear wavy boundary.

2BC—58 to 65 inches; yellowish brown (10YR 5/4) loam; weak medium subangular blocky structure; firm; few medium distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; 5 percent rock fragments; slightly effervescent; slightly alkaline; clear wavy boundary.

2C—65 to 80 inches; yellowish brown (10YR 5/4) loam; massive; firm; 2 percent rock fragments; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Thickness of the loess or silty material: 40 to 60 inches
Depth to the base of the argillic horizon: 50 to 75 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silty clay loam
Reaction—slightly acid or neutral

Bt or Btg horizon (upper part):
Hue—10YR or 2.5Y
Value—3 to 5
Chroma—1 to 3
Texture—silt loam or silty clay loam
Reaction—slightly acid or neutral

Bt or Btg horizon (lower part):
Hue—10YR or 2.5Y
Value—4 or 5
Chroma—1 to 4
Texture—silt loam or silty clay loam
Reaction—slightly acid or neutral

2Bt or 2Btg horizon:
Hue—10YR or 2.5Y
Value—4 or 5
Chroma—2 to 4
Texture—loam, clay loam, or silty clay loam
Reaction—neutral or slightly alkaline
Content of rock fragments—1 to 10 percent

2BC or 2BCg horizon:
Hue—10YR
Value—4 or 5

Chroma—2 to 4
Texture—loam
Reaction—neutral or slightly alkaline
Content of rock fragments—1 to 10 percent

2C or 2Cg horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—loam or fine sandy loam
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—1 to 10 percent

Deputy Series

Taxonomic classification: Fine-silty, mixed, active, mesic Aquic Hapludults
Taxadjunct features: The Deputy soils in map units BlcC3 and DtzC3 have more clay in the upper part of the subsoil than is defined as the range for the series. This difference, however, does not alter the usefulness or behavior of the soils. These soils are classified as fine, mixed, active, mesic Aquic Hapludults.

Typical Pedon

Deputy silt loam (fig. 22), on a slope of 3 percent in a pasture; 1,200 feet west and 2,300 feet south of the northeast corner of section 17, T. 4 N., R. 8 E., Jefferson County, Indiana; USGS Deputy, Indiana, topographic quadrangle; lat. 38 degrees 47 minutes 22.41 seconds N. and long. 85 degrees 39 minutes 5.058 seconds W., UTM Zone 16, 617128 easting and 4294281 northing, NAD 83.

Ap—0 to 8 inches; 90 percent brown (10YR 4/3) and 10 percent yellowish brown (10YR 5/6) silt loam, light brownish gray (10YR 6/2) and pale yellow (10YR 7/4) dry; moderate medium granular structure; friable; common fine roots; slightly acid; abrupt wavy boundary.

Bt1—8 to 15 inches; yellowish brown (10YR 5/6) silty clay loam; moderate medium subangular blocky structure; friable; common fine roots; few distinct strong brown (7.5YR 5/6) clay films on faces of peds; very strongly acid; clear wavy boundary.

Bt2—15 to 20 inches; yellowish brown (10YR 5/6) silty clay loam; moderate medium subangular blocky structure; friable; common fine roots; few faint brown (7.5YR 5/4) clay films on faces of peds; common fine prominent light brownish gray (10YR 6/2) iron depletions in the matrix; very strongly acid; clear wavy boundary.

Bt3—20 to 27 inches; yellowish brown (10YR 5/6) silty clay loam; moderate medium subangular blocky structure; firm; few fine roots; common distinct grayish brown (10YR 5/2) clay films on faces of peds; few fine distinct brown (7.5YR 4/4) masses of oxidized iron in the matrix; few fine prominent very dark gray (10YR 3/1) iron-manganese masses on surfaces along pores; many medium prominent light brownish gray (10YR 6/2) iron depletions in the matrix; very strongly acid; clear wavy boundary.

2Bt4—27 to 42 inches; yellowish brown (10YR 5/6) silty clay; moderate medium and coarse angular blocky structure; very firm; few fine roots; common prominent gray (10YR 5/1) clay films on faces of peds; few fine distinct brown (7.5YR 4/4) masses of oxidized iron in the matrix; few fine prominent very dark gray (10YR 3/1) iron-manganese masses on surfaces along pores; many medium prominent gray (10YR 6/1) iron depletions in the matrix; very strongly acid; clear wavy boundary.

2Btg—42 to 53 inches; light gray (10YR 7/1) silty clay; weak coarse angular blocky structure; very firm; few faint gray (10YR 5/1) clay films on faces of peds; many

Figure 22.—Profile of a Deputy soil. Depth is marked in feet.

medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; 6 percent shale parachanners ($^{1}/_{8}$ inch to 3 inches); very strongly acid; gradual wavy boundary.

2Cr—53 to 77 inches; 80 percent light gray (2.5Y 7/1) and light olive brown (2.5Y 5/6) and 20 percent strong brown (7.5YR 5/8) and very dark gray (2.5Y 3/1), fractured, weakly cemented shale fragments; very strongly acid; abrupt wavy boundary.
2R—77 to 81 inches; fractured, very strongly cemented black shale.

Range in Characteristics

Thickness of the loess: 20 to 36 inches
Depth to the base of the argillic horizon: 38 to 58 inches
Depth to bedrock (paralithic contact): 40 to 60 inches
Depth to bedrock (lithic contact): 60 to 80 inches
Particle-size control section: Averages 27 to 34 percent clay and 2 to 10 percent sand

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—3 to 6
Texture—silt loam
Reaction—very strongly acid to neutral

A horizon (where present):
Hue—10YR
Value—4 or 5
Chroma—2 or 3
Texture—silt loam
Reaction—very strongly acid or strongly acid

Bt horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 to 6
Texture—silt loam or silty clay loam
Reaction—commonly very strongly acid or strongly acid; ranges to slightly acid in the upper part in areas that have been limed

2Bt or 2Btg horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 7
Chroma—1 to 6
Texture—silty clay; less commonly clay
Reaction—extremely acid or very strongly acid
Content of pararock fragments—0 to 10 percent shale parachanners

2BC or 2BCg horizon (where present):
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 7
Chroma—1 to 6
Texture—silty clay loam or silty clay
Reaction—extremely acid or very strongly acid
Content of pararock fragments—15 to 50 percent shale parachanners
Content of rock fragments—0 to 10 percent gravel (pyrite)

2Cr horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—3 to 7
Chroma—1 to 6
Reaction—extremely acid or very strongly acid

Dubois Series

Taxonomic classification: Fine-silty, mixed, active, mesic Aeric Fragiaqualfs

Typical Pedon

Dubois silt loam, on a slope of 1 percent in a cultivated field; 725 feet east and 1,450 feet south of the northwest corner of section 35, T. 4 N., R. 6 E., Scott County, Indiana; USGS Scottsburg, Indiana, topographic quadrangle; lat. 38 degrees 44 minutes 46.242 seconds N. and long. 85 degrees 49 minutes 46.034 seconds W., UTM Zone 16, 601725 easting and 4289259 northing, NAD 83.

Ap—0 to 10 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak very coarse subangular blocky structure parting to moderate medium granular; friable; common very fine and fine roots; common fine and medium spherical iron-manganese concretions; neutral; clear smooth boundary.

BE—10 to 17 inches; brownish yellow (10YR 6/6) silt loam; weak medium subangular blocky structure; friable; few very fine roots between peds; few fine distinct strong brown (7.5YR 4/6) masses of oxidized iron on faces of peds; common fine faint yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few fine and medium spherical iron-manganese concretions; many medium prominent light brownish gray (10YR 6/2) iron depletions in the matrix; very strongly acid; clear wavy boundary.

Bt1—17 to 23 inches; light brownish gray (10YR 6/2) silty clay loam; weak medium prismatic structure parting to moderate coarse angular blocky; firm; few very fine roots between peds; common distinct grayish brown (10YR 5/2) clay films on faces of peds; few fine prominent strong brown (7.5YR 5/6) masses of oxidized iron on faces of peds; many distinct light gray (10YR 7/2) clay depletions on faces of peds; many medium distinct yellowish brown (10YR 5/4) masses of oxidized iron in the matrix; extremely acid; clear wavy boundary.

Bt2—23 to 38 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium prismatic structure parting to moderate coarse angular blocky; firm; few very fine roots between peds; many prominent gray (10YR 6/1) clay films on faces of peds; many fine distinct strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; many fine distinct light brownish gray (10YR 6/2) iron depletions in the matrix; extremely acid; gradual wavy boundary.

2Btx1—38 to 62 inches; dark yellowish brown (10YR 4/6) silt loam; moderate very coarse prismatic structure; very firm; common prominent gray (10YR 6/1), brown (10YR 5/3), and reddish brown (5YR 4/4) clay films on vertical faces of peds; many fine faint strong brown (7.5YR 4/6) masses of oxidized iron in the matrix; common fine prominent light brownish gray (10YR 6/2) iron depletions in the matrix; brittle; very strongly acid; gradual wavy boundary.

2Btx2—62 to 82 inches; brownish yellow (10YR 6/6) silty clay loam; weak coarse and very coarse prismatic structure; firm; common prominent gray (10YR 5/1) and brown (10YR 4/3) clay films on vertical faces of peds; few fine prominent reddish brown (5YR 4/4) masses of oxidized iron on vertical faces of peds; common fine prominent light brownish gray (10YR 6/2) iron depletions in the matrix; brittle; strongly acid; diffuse wavy boundary.

2Bt—82 to 96 inches; strong brown (7.5YR 5/6) silty clay loam; moderate coarse angular blocky structure; very firm; many prominent light brownish gray (10YR 6/2) clay films on faces of peds; common medium faint brownish yellow (10YR 6/6) masses of oxidized iron in the matrix; common medium prominent light gray (10YR 7/2) iron depletions in the matrix; neutral.

Range in Characteristics

Depth to a fragipan: 22 to 40 inches
Depth to the base of the argillic horizon: 80 inches or more

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—3 or 4
Texture—silt loam
Reaction—very strongly acid to neutral

A horizon (where present):
Hue—10YR
Value—4 or 5
Chroma—2 or 3
Texture—silt loam
Reaction—very strongly acid or strongly acid

BE or EB horizon:
Hue—10YR
Value—5 or 6
Chroma—2 to 6
Texture—silt loam
Reaction—very strongly acid or strongly acid; ranges to slightly acid in areas that have been limed

Bt or Btg horizon:
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—1 to 4; where chroma is 3 or 4, 50 percent or more of the ped faces have chroma of 2 or less
Texture—silt loam or silty clay loam
Reaction—extremely acid or very strongly acid

Btx or 2Btx horizon:
Hue—10YR
Value—4 to 6
Chroma—2 to 6
Texture—silt loam or silty clay loam; less commonly loam
Reaction—very strongly acid or strongly acid; less commonly extremely acid

2Bt or 2Btg horizon:
Hue—7.5YR or 10YR
Value—5 or 6
Chroma—1 to 8
Texture—silt loam, silty clay loam, loam, or clay loam; less commonly sandy clay loam
Reaction—strongly acid to neutral
Content of rock fragments—0 to 2 percent gravel

2BC or 2BCg horizon (where present):
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—1 to 6
Texture—silty clay loam, clay loam, loam, silt loam, sandy clay loam, or fine sandy loam

Reaction—strongly acid to neutral
Content of rock fragments—0 to 2 percent gravel

Elkinsville Series

Taxonomic classification: Fine-silty, mixed, active, mesic Ultic Hapludalfs

Typical Pedon

Elkinsville silt loam, on a slope of 3 percent in a cultivated field; 1,690 feet south and 1,570 feet east of the northwest corner of section 3, T. 6 N., R. 12 E., Ripley County, Indiana; USGS Cross Plains, Indiana, topographic quadrangle; lat. 38 degrees 59 minutes 49.209 seconds N. and long. 85 degrees 10 minutes 48.447 seconds W., UTM Zone 16, 657599.683 easting and 4318019.816 northing, NAD 83.

Ap—0 to 9 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak very fine granular structure; friable; common fine roots; slightly acid; abrupt smooth boundary.

Bt1—9 to 15 inches; yellowish brown (10YR 5/6) silt loam; moderate fine subangular blocky structure; friable; few fine roots; few faint yellowish brown (10YR 5/4) clay films on faces of peds; few distinct brown (10YR 4/3) organic coatings on faces of peds; slightly acid; gradual smooth boundary.

Bt2—15 to 24 inches; yellowish brown (10YR 5/6) silt loam; moderate fine subangular blocky structure; firm; many distinct yellowish brown (10YR 5/4) clay films on faces of peds; very strongly acid; gradual smooth boundary.

2Bt3—24 to 38 inches; strong brown (7.5YR 5/6) clay loam; moderate medium subangular blocky structure; firm; few fine roots; many distinct brown (7.5YR 5/4) clay films on faces of peds; 1 percent gravel; very strongly acid; gradual smooth boundary.

2Bt4—38 to 50 inches; strong brown (7.5YR 5/6) clay loam; weak medium subangular blocky structure; firm; few fine roots; many distinct yellowish brown (10YR 5/4) clay films on faces of peds; very strongly acid; 1 percent gravel; gradual smooth boundary.

2Bt5—50 to 58 inches; strong brown (7.5YR 5/6) sandy clay loam; few fine prominent pale brown (10YR 6/3) mottles; weak fine subangular blocky structure; friable; few distinct yellowish brown (10YR 5/4) clay bridges between sand grains; common irregular fine and medium masses of oxidized iron in the matrix; very strongly acid; gradual smooth boundary.

2CB—58 to 68 inches; yellowish brown (10YR 5/6) clay loam; common fine distinct pale brown (10YR 6/3) mottles; massive; friable; common irregular fine and medium masses of oxidized iron in the matrix; 1 percent gravel; strongly acid; clear smooth boundary.

2C—68 to 80 inches; dark yellowish brown (10YR 4/4) loam; massive; friable; 4 percent gravel; moderately acid.

Range in Characteristics

Thickness of the loess: Less than 40 inches
Depth to the base of the argillic horizon: 42 to 72 inches

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam
Reaction—very strongly acid to neutral

A horizon (where present):
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam
Reaction—very strongly acid or strongly acid

EB or BE horizon (where present):
Hue—10YR
Value—5 or 6
Chroma—3 or 4
Texture—silt loam
Reaction—very strongly acid or strongly acid; ranges to neutral in the upper part in areas that have been limed

Bt horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 to 8
Texture—silt loam or silty clay loam
Reaction—very strongly acid or strongly acid; ranges to neutral in the upper part in areas that have been limed

2Bt horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 to 8
Texture—loam, clay loam, or sandy clay loam
Reaction—very strongly acid or strongly acid
Content of rock fragments—0 to 5 percent gravel

2BC or 2CB horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 to 8
Texture—loam, sandy loam, fine sandy loam, clay loam, or sandy clay loam
Reaction—very strongly acid or strongly acid
Content of rock fragments—0 to 5 percent gravel

2C horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 to 6
Texture—loam, sandy loam, or fine sandy loam; range includes thin strata of clay loam or sandy clay loam
Reaction—very strongly acid to moderately acid
Content of rock fragments—0 to 14 percent gravel

Fincastle Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Aeric Epiaqualfs

Typical Pedon

Fincastle silt loam, on a slope of 1 percent in a cultivated field; 1,750 feet east and 30 feet south of the northwest corner of section 23, T. 12 N., R. 10 E., Rush County, Indiana; USGS Milroy, Indiana, topographic quadrangle; lat. 39 degrees 28 minutes

55.875 seconds N. and long. 85 degrees 22 minutes 45.883 seconds W., UTM Zone 16, 639379 easting and 4371560 northing, NAD 83.

Ap—0 to 10 inches; dark grayish brown (10YR 4/2) silt loam, pale brown (10YR 6/3) dry; moderate fine granular structure; friable; many fine and very fine roots; neutral; abrupt smooth boundary.

E—10 to 13 inches; grayish brown (10YR 5/2) silt loam; weak fine subangular blocky structure; friable; common fine and very fine roots; many medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; moderately acid; clear smooth boundary.

Bt1—13 to 21 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium subangular blocky structure; firm; few fine and common very fine roots; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; many medium distinct light brownish gray (10YR 6/2) iron depletions in the matrix; moderately acid; clear wavy boundary.

Bt2—21 to 27 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium subangular blocky structure; firm; few fine roots; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few medium prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; few very dark brown (7.5YR 2.5/2) very weakly cemented iron-manganese nodules throughout; common medium distinct light brownish gray (10YR 6/2) iron depletions in the matrix; slightly acid; clear wavy boundary.

2Bt3—27 to 34 inches; yellowish brown (10YR 5/4) clay loam; moderate coarse subangular blocky structure; firm; few fine roots; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common medium prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; few very dark brown (7.5YR 2.5/2) very weakly cemented iron-manganese nodules throughout; common medium distinct light brownish gray (10YR 6/2) iron depletions in the matrix; 3 percent rock fragments; neutral; clear wavy boundary.

2Bt4—34 to 50 inches; brown (10YR 5/3) clay loam; weak fine subangular blocky structure; firm; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few medium distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few very dark brown (7.5YR 2.5/2) very weakly cemented iron-manganese nodules throughout; common medium faint light brownish gray (10YR 6/2) iron depletions in the matrix; 2 percent rock fragments; slightly alkaline; abrupt wavy boundary.

2BCt—50 to 59 inches; yellowish brown (10YR 5/4) loam; weak medium and coarse subangular blocky structure; very firm; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few medium distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few very dark brown (7.5YR 2.5/2) very weakly cemented iron-manganese nodules throughout; many medium distinct light brownish gray (10YR 6/2) iron depletions in the matrix; 6 percent rock fragments; strongly effervescent; moderately alkaline; clear wavy boundary.

2Cd—59 to 80 inches; yellowish brown (10YR 5/4) loam; massive; very firm; 9 percent rock fragments; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the loess: 22 to 40 inches
Depth to carbonates: 35 to 60 inches
Depth to the base of the argillic horizon: 40 to 60 inches

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—2 or 3

Texture—silt loam
Reaction—strongly acid to neutral

E horizon:
Hue—10YR
Value—5 or 6
Chroma—2
Texture—silt loam
Reaction—strongly acid to neutral

Bt horizon:
Hue—10YR
Value—4 to 6
Chroma—2 to 6
Texture—silty clay loam or silt loam
Reaction—strongly acid to slightly acid

2Bt horizon:
Hue—10YR
Value—4 to 6
Chroma—2 to 6
Texture—clay loam, silty clay loam, or loam
Reaction—strongly acid to slightly alkaline
Content of rock fragments—1 to 7 percent

2BCt horizon:
Hue—10YR
Value—4 to 6
Chroma—2 to 6
Texture—clay loam or loam
Reaction—neutral to moderately alkaline
Content of rock fragments—1 to 8 percent

2Cd horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—loam or fine sandy loam
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—2 to 14 percent

Grayford Series

Taxonomic classification: Fine-loamy, mixed, active, mesic Ultic Hapludalfs

Typical Pedon

Grayford silt loam (fig. 23), on a slope of 13 percent in a pasture; 1,816 feet east and 1,130 feet north of the southwest corner of section 29, T. 4 N., R. 9 E., Jefferson County, Indiana; USGS Volga, Indiana, topographic quadrangle; lat. 38 degrees 45 minutes 18.124 seconds N. and long. 85 degrees 32 minutes 51.902 seconds W., UTM Zone 16, 626189 easting and 4290592 northing, NAD 83.

Ap—0 to 6 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak medium granular structure; friable; many fine roots; neutral; abrupt smooth boundary.

Figure 23.—Profile of a Grayford soil. Depth is marked in feet.

Bt1—6 to 12 inches; strong brown (7.5YR 5/6) silt loam; weak medium subangular blocky structure; friable; common fine roots; few faint strong brown (7.5YR 5/6) clay films on faces of peds; moderately acid; gradual smooth boundary.

Bt2—12 to 22 inches; strong brown (7.5YR 5/6) silt loam; moderate medium subangular blocky structure; friable; few fine roots; many prominent reddish brown (5YR 4/4) clay films on faces of peds; few fine prominent very dark gray (10YR 3/1) iron-manganese concretions in the matrix; very strongly acid; gradual wavy boundary.

2Bt3—22 to 33 inches; yellowish red (5YR 5/6) loam; moderate medium angular and subangular blocky structure; firm; many distinct reddish brown (5YR 4/4) clay films on faces of peds and in pores; many medium prominent very dark gray (10YR 3/1) iron-manganese concretions in the matrix; 3 percent gravel; very strongly acid; gradual wavy boundary.

2Bt4—33 to 45 inches; yellowish red (5YR 5/6) clay loam; moderate medium subangular blocky structure; firm; many distinct reddish brown (5YR 4/4) clay films on faces of peds and in pores; many medium prominent very dark gray (10YR 3/1) iron-manganese concretions in the matrix; 3 percent gravel; strongly acid; gradual wavy boundary.

3Bt5—45 to 52 inches; reddish brown (5YR 4/4) clay; weak very coarse subangular blocky structure; very firm; many distinct reddish brown (5YR 4/4) clay films on faces of peds; many medium prominent very dark gray (10YR 3/1) iron-

manganese concretions in the matrix; 3 percent subangular chert gravel; 10 percent subangular chert cobbles; strongly acid; abrupt wavy boundary.

3R—52 to 60 inches; indurated limestone bedrock.

Range in Characteristics

Thickness of the loess: 0 to 22 inches
Depth to clayey residuum: 35 to 55 inches
Depth to the base of the argillic horizon: 40 to 60 inches
Depth to bedrock (lithic contact): 40 to 60 inches

Ap horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam
Reaction—very strongly acid to neutral
Content of rock fragments—0 to 10 percent gravel

A horizon (1 to 4 inches thick) (where present):
Hue—7.5YR or 10YR
Value—3 or 4
Chroma—2 or 3
Texture—silt loam
Reaction—very strongly acid or strongly acid
Content of rock fragments—0 to 5 percent gravel

E horizon (where present):
Hue—10YR
Value—6
Chroma—4 to 6
Texture—silt loam
Reaction—very strongly acid or strongly acid
Content of rock fragments—0 to 5 percent gravel

Bt or BE horizon (where present):
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 to 8
Texture—silt loam or silty clay loam
Reaction—very strongly acid or strongly acid; ranges to neutral in the upper part in areas that have been limed
Content of rock fragments—0 to 5 percent gravel

2Bt horizon:
Hue—5YR, 7.5YR, or 10YR
Value—4 or 5
Chroma—4 to 8
Texture—loam or clay loam; less commonly silt loam
Reaction—very strongly acid or strongly acid
Content of rock fragments—1 to 10 percent gravel

3Bt horizon:
Hue—2.5YR or 5YR
Value—4 or 5
Chroma—4 to 8

Texture—silty clay, clay, gravelly clay, or gravelly silty clay; less commonly cobbly clay
Reaction—strongly acid or moderately acid
Content of rock fragments—2 to 34 percent chert gravel and cobbles

3BC horizon (where present):
Hue—7.5YR or 10YR
Value—3 or 4
Chroma—3 or 4
Texture—silty clay, clay, gravelly clay, or gravelly silty clay; less commonly cobbly clay
Reaction—strongly acid to neutral
Content of rock fragments—2 to 34 percent chert gravel and cobbles

Greybrook Series

Taxonomic classification: Fine-loamy, mixed, active, mesic Typic Hapludalfs

Typical Pedon

Greybrook silt loam, on a slope of 35 percent in a forest; 2,700 feet west and 1,200 feet south of the northeast corner of section 22, T. 12 N., R. 3 W.; Owen County, Indiana; USGS Quincy, Indiana, topographic quadrangle; lat. 39 degrees 28 minutes 1.721 seconds N. and long. 86 degrees 44 minutes 3.404 seconds W., UTM Zone 16, 522850.764 easting and 4368648.038 northing, NAD 83.

A1—0 to 2 inches; dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; weak fine granular structure; friable; many very fine and fine roots; many very fine interstitial pores; very strongly acid; abrupt smooth boundary.
A2—2 to 5 inches; brown (10YR 4/3) silt loam; weak very fine subangular blocky structure; friable; many very fine and fine roots; common very fine interstitial pores; 5 percent dark brown (10YR 3/3) silt loam filling channels and pores; very strongly acid; clear wavy boundary.
E—5 to 10 inches; yellowish brown (10YR 5/4) silt loam; weak fine subangular blocky structure; friable; common very fine and fine roots; common very fine vesicular and tubular pores; very strongly acid; clear wavy boundary.
BE—10 to 15 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium subangular blocky structure; friable; common very fine and fine roots; common very fine vesicular and tubular pores; very strongly acid; gradual wavy boundary.
2Bt1—15 to 25 inches; yellowish brown (10YR 5/4) silt loam; moderate medium subangular blocky structure; friable; few very fine and fine roots; few very fine vesicular and tubular pores; many distinct dark yellowish brown (10YR 4/4) clay films on faces of peds and in pores; 1 percent fine gravel; very strongly acid; clear wavy boundary.
2Bt2—25 to 35 inches; light yellowish brown (10YR 6/4) clay loam; many fine distinct grayish brown (10YR 5/2) mottles; moderate medium subangular blocky structure; firm; few very fine vesicular and tubular pores; many distinct dark brown (10YR 3/3) clay films on faces of peds and in pores; 2 percent fine gravel; very strongly acid; gradual wavy boundary.
2Bt3—35 to 52 inches; strong brown (7.5YR 5/8) clay loam; many medium prominent grayish brown (10YR 5/2) mottles; moderate medium and coarse subangular blocky structure; firm; many distinct grayish brown (10YR 5/2) clay films on faces of peds and in pores; 4 percent fine gravel; moderately acid; gradual wavy boundary.
2Btg—52 to 62 inches; gray (10YR 6/1) loam; weak coarse prismatic structure; firm; many distinct light brownish gray (10YR 6/2) clay films on faces of peds and in

pores; few fine distinct light yellowish brown (10YR 6/4) and prominent brown (7.5YR 5/4) masses of oxidized iron in the matrix; 2 percent fine gravel; neutral; clear wavy boundary.

2Cg—62 to 80 inches; light brownish gray (2.5Y 6/2), stratified silt, silty clay loam, and clay loam; massive; firm; many coarse prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; 1 percent fine gravel; strongly effervescent in places; slightly alkaline.

Range in Characteristics

Thickness of the loess: 10 to 20 inches
Depth to the base of the argillic horizon: 55 to 80 inches
Particle-size control section: Averages 22 to 30 percent clay, 15 to 27 percent fine or coarser sand, and less than 5 percent coarse and very coarse sand

A horizon:
Hue—10YR
Value—3 or 4
Chroma—2 or 3
Texture—silt loam
Reaction—very strongly acid in areas that have not been limed; ranges to neutral in areas that have been limed

BE or E horizon:
Hue—10YR
Value—4 to 6
Chroma—4 to 6
Texture—silt loam
Content of clay—15 to 27 percent
Content of sand—5 to 15 percent
Reaction—very strongly acid in areas that have not been limed; ranges to neutral in areas that have been limed

2Bt or 2Btg horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—5 or 6
Chroma—1 to 8
Texture—clay loam, loam, or silt loam
Content of clay—18 to 35 percent
Content of sand—15 to 40 percent
Reaction—very strongly acid or strongly acid in the upper part; ranges to neutral in the lower part
Content of rock fragments—0 to 5 percent (fine gravel)

2Cg or 2C horizon:
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—2 to 6
Texture—stratified with silt loam, loam, clay loam, and silty clay loam; minor strata of silt included
Content of clay—18 to 35 percent
Content of sand—10 to 40 percent
Reaction—neutral or slightly alkaline
Content of rock fragments—0 to 5 percent (fine gravel)

Haubstadt Series

Taxonomic classification: Fine-silty, mixed, active, mesic Aquic Fragiudalfs

Typical Pedon

Haubstadt silt loam, on a convex slope of 4 percent in a cultivated field; 1,930 feet east and 500 feet south of the center of section 18, T. 4 N., R. 7 E., Scott County, Indiana; USGS Crothersville, Indiana, topographic quadrangle; lat. 38 degrees 47 minutes 7.125 seconds N. and long. 85 degrees 46 minutes 45.168 seconds W., UTM Zone 16, 606033.437 easting and 4293660.738 northing, NAD 83.

Ap—0 to 7 inches; 80 percent dark yellowish brown (10YR 4/4) and 20 percent yellowish brown (10YR 5/6) silt loam, light yellowish brown (10YR 6/4) and very pale brown (10YR 7/4) dry; weak medium subangular blocky structure parting to moderate medium granular; friable; common very fine and fine roots; few fine distinct spherical black (10YR 2/1) iron-manganese concretions; slightly acid; abrupt smooth boundary.

BE—7 to 14 inches; yellowish brown (10YR 5/6) silt loam; weak fine subangular blocky structure; friable; few very fine and fine roots; many faint light yellowish brown (10YR 6/4) silt coatings on faces of peds; common distinct dark yellowish brown (10YR 4/4) organic coatings in tubular pores; common fine prominent spherical black (10YR 2/1) iron-manganese concretions; very strongly acid; clear wavy boundary.

Bt1—14 to 20 inches; yellowish brown (10YR 5/6) silt loam; moderate medium subangular blocky structure; friable; few very fine and fine roots; common distinct dark yellowish brown (10YR 4/4) and few distinct brown (10YR 5/3) clay films on faces of peds; many distinct pale brown (10YR 6/3) silt coatings on faces of peds; common fine spherical black (10YR 2/1) iron-manganese concretions; few fine prominent light brownish gray (10YR 6/2) iron depletions in the matrix; very strongly acid; clear wavy boundary.

Bt2—20 to 32 inches; yellowish brown (10YR 5/6) silty clay loam; weak medium prismatic structure parting to moderate coarse subangular blocky; firm; few very fine roots; many distinct dark yellowish brown (10YR 4/4) and common distinct grayish brown (10YR 5/2) clay films on faces of peds; many distinct pale brown (10YR 6/3) silt coatings on faces of peds; common fine prominent spherical black (10YR 2/1) iron-manganese concretions; few fine prominent light brownish gray (10YR 6/2) iron depletions in the matrix; very strongly acid; gradual irregular boundary.

Btx1—32 to 54 inches; brownish yellow (10YR 6/6) silt loam; moderate very coarse prismatic structure parting to moderate coarse subangular blocky; very firm; few very fine roots; many prominent grayish brown (10YR 5/2) and common distinct brown (10YR 4/3) clay films on vertical faces of peds; common fine prominent spherical black (10YR 2/1) iron-manganese concretions; many prominent light gray (10YR 7/2) clay depletions on faces of peds; common fine prominent light brownish gray (10YR 6/2) iron depletions in the matrix; brittle; very strongly acid; gradual wavy boundary.

Btx2—54 to 61 inches; brownish yellow (10YR 6/6) silty clay loam; weak very coarse prismatic structure; very firm; many prominent grayish brown (10YR 5/2) and common distinct brown (10YR 4/3) clay films on vertical faces of peds; common fine prominent spherical black (10YR 2/1) iron-manganese concretions; common fine prominent light brownish gray (10YR 6/2) iron depletions in the matrix; brittle; very strongly acid; gradual wavy boundary.

2Bt—61 to 80 inches; strong brown (7.5YR 5/6) silty clay loam; moderate coarse subangular blocky structure; firm; many prominent gray (10YR 5/1) clay films on faces of peds; common medium and coarse faint yellowish red (5YR 5/6) masses

of oxidized iron in the matrix; common coarse prominent light brownish gray (10YR 6/2) iron depletions in the matrix; very strongly acid.

Range in Characteristics

Thickness of the loess: 16 to 40 inches
Depth to a fragipan: 20 to 40 inches; 12 to 20 inches in severely eroded areas

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—3 or 4
Texture—silt loam
Reaction—very strongly acid to neutral

A horizon (where present):
Hue—10YR
Value—3 or 4
Chroma—1 or 2
Texture—silt loam
Reaction—very strongly acid or strongly acid

BE or EB horizon (where present):
Hue—10YR
Value—5 or 6
Chroma—3 to 6
Texture—silt loam
Reaction—commonly very strongly acid or strongly acid; ranges to neutral in the upper part in some pedons

Bt horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—4 to 6
Texture—silt loam or silty clay loam
Reaction—very strongly acid or strongly acid

Btx horizon:
Hue—7.5YR or 10YR
Value—5 or 6
Chroma—3 to 8
Texture—silt loam or silty clay loam; less commonly loam
Reaction—very strongly acid or strongly acid

2Bt horizon:
Hue—7.5YR or 10YR
Value—5 or 6
Chroma—3 to 8
Texture—silty clay loam, clay loam, loam, or silt loam
Reaction—very strongly acid to neutral
Content of rock fragments—0 to 10 percent gravel

Haymond Series

Taxonomic classification: Coarse-silty, mixed, superactive, mesic Dystric Fluventic Eutrudepts

Typical Pedon

Haymond silt loam, in a nearly level area in a cultivated field; 1,800 feet east and 300 feet north of the southwest corner of section 2, T. 1 S., R. 11 W., Knox County, Indiana; USGS Patoka, Indiana, topographic quadrangle; lat. 38 degrees 27 minutes 4.284 seconds N. and long. 87 degrees 36 minutes 19.161 seconds W., UTM Zone 16, 447182 easting and 4256048 northing, NAD 83.

Ap—0 to 10 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate medium granular structure; friable; common fine roots; slightly acid; abrupt smooth boundary.

Bw1—10 to 25 inches; dark yellowish brown (10YR 4/4) silt loam; moderate medium subangular blocky structure; friable; common fine roots; common distinct brown (10YR 4/3) organic coatings on faces of peds; slightly acid; clear smooth boundary.

Bw2—25 to 44 inches; yellowish brown (10YR 5/4) silt loam; weak medium subangular blocky structure; friable; few distinct dark yellowish brown (10YR 4/4) organic coatings on faces of peds; neutral; clear smooth boundary.

C—44 to 60 inches; yellowish brown (10YR 5/4) fine sandy loam; massive with weak bedding planes; friable; slightly alkaline.

Range in Characteristics

Depth to the base of the cambic horizon: 30 to 60 inches

Ap or A horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam
Reaction—moderately acid to neutral

Bw horizon:
Hue—10YR
Value—4 or 5
Chroma—3 or 4
Texture—silt loam
Reaction—moderately acid to neutral

C horizon:
Hue—10YR
Value—4 or 5
Chroma—3 or 4
Texture—silt loam, loam, fine sandy loam, or sandy loam or stratified with these textures
Reaction—slightly acid to slightly alkaline
Content of rock fragments—0 to 5 percent gravel

Hickory Series

Taxonomic classification: Fine-loamy, mixed, active, mesic Typic Hapludalfs

Typical Pedon

Hickory loam, on a slope of 25 percent in a forested area; 1,305 feet west and 845 feet north of the center of section 22, T. 4 N., R. 7 E., Scott County, Indiana; USGS Deputy, Indiana, topographic quadrangle; lat. 38 degrees 46 minutes 29.029 seconds N. and

long. 85 degrees 44 minutes 5 seconds W., UTM Zone 16, 609908.79 easting and 4292541.144 northing, NAD 83.

A—0 to 4 inches; 80 percent very dark brown (10YR 2/2) and 20 percent yellowish brown (10YR 5/4) loam, dark grayish brown (10YR 4/2) and very pale brown (10YR 7/4) dry; moderate medium granular structure; very friable; many fine roots; 2 percent gravel; very strongly acid; abrupt smooth boundary.

E—4 to 11 inches; yellowish brown (10YR 5/4) loam; weak fine subangular blocky structure parting to moderate medium granular; friable; common fine and medium roots; few fine spherical iron-manganese concretions; 2 percent gravel; very strongly acid; clear smooth boundary.

Bt1—11 to 20 inches; yellowish brown (10YR 5/6) loam; moderate medium subangular blocky structure; friable; common fine and medium roots between peds; common faint yellowish brown (10YR 5/6) clay films on faces of peds; common distinct light yellowish brown (10YR 6/4) silt coatings on faces of peds; common medium spherical iron-manganese concretions; 3 percent gravel; strongly acid; clear wavy boundary.

Bt2—20 to 29 inches; yellowish brown (10YR 5/6) clay loam; moderate medium and coarse subangular blocky structure; firm; few fine and medium roots between peds; many distinct dark yellowish brown (10YR 4/6) clay films on faces of peds; common distinct light yellowish brown (10YR 6/4) silt coatings on faces of peds; common medium irregular iron-manganese concretions; 2 percent gravel; very strongly acid; clear wavy boundary.

Bt3—29 to 39 inches; yellowish brown (10YR 5/6) loam; moderate coarse subangular blocky structure; firm; few fine and medium roots between peds; many distinct brown (7.5YR 4/4) clay films on faces of peds; few distinct light yellowish brown (10YR 6/4) silt coatings on faces of peds; few medium prominent irregular black (10YR 2/1) masses of iron-manganese accumulation in the matrix; 3 percent gravel; very strongly acid; gradual wavy boundary.

BCt—39 to 45 inches; yellowish brown (10YR 5/6) loam; weak coarse subangular blocky structure; firm; few fine roots between peds; common distinct brown (7.5YR 4/4) clay films on faces of peds; 6 percent gravel; slightly alkaline; gradual wavy boundary.

CB—45 to 51 inches; yellowish brown (10YR 5/6) loam; massive; firm; very few distinct brown (7.5YR 4/4) clay films in root channels; 6 percent gravel; strongly effervescent; moderately alkaline; gradual wavy boundary.

C—51 to 60 inches; light yellowish brown (10YR 6/4) loam; massive; firm; 6 percent gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the loess: Less than 20 inches
Depth to the base of the argillic horizon: 40 to 80 inches
Depth to carbonates: More than 40 inches

A horizon (1 to 4 inches thick):
Hue—10YR
Value—2 to 4
Chroma—2 or 3
Texture—silt loam or loam
Reaction—very strongly acid to moderately acid
Content of rock fragments—0 to 5 percent gravel

Ap horizon (where present):
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 to 6

Texture—silt loam, loam, or clay loam
Reaction—very strongly acid to neutral
Content of rock fragments—0 to 5 percent gravel

E horizon (where present):
Hue—10YR
Value—5 or 6
Chroma—3 or 4
Texture—silt loam or loam
Reaction—very strongly acid to moderately acid
Content of rock fragments—0 to 5 percent gravel

Bt horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 to 6
Texture—clay loam or loam
Reaction—very strongly acid to neutral
Content of rock fragments—0 to 10 percent gravel

BCt horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 to 6
Texture—clay loam or loam
Reaction—moderately acid to slightly alkaline
Content of rock fragments—3 to 14 percent gravel

CB or C horizon:
Hue—10YR
Value—5 or 6
Chroma—3 to 6
Texture—loam or clay loam; less commonly sandy loam
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—3 to 14 percent gravel

Holton Series

Taxonomic classification: Coarse-loamy, mixed, active, nonacid, mesic Aeric Endoaquepts

Typical Pedon

Holton silt loam, in a nearly level area in an idle field; 1,200 feet east and 200 feet south of the northwest corner of section 29, T. 10 N., R. 13 E.; Ripley County, Indiana; USGS Spades, Indiana, topographic quadrangle; lat. 39 degrees 17 minutes 42.22 seconds N. and long. 85 degrees 6 minutes 33.635 seconds W., UTM Zone 16, 663038.123 easting and 4351219.524 northing, NAD 83.

Ap—0 to 7 inches; brown (10YR 5/3) silt loam, very pale brown (10YR 7/3) dry; weak very fine granular structure; friable; many very fine roots; slightly acid; gradual smooth boundary.

BA—7 to 14 inches; brown (10YR 5/3) loam; weak medium subangular blocky structure; friable; many fine roots; few fine faint dark yellowish brown (10YR 4/4) masses of oxidized iron in the matrix; slightly acid; abrupt smooth boundary.

Bg1—14 to 20 inches; grayish brown (10YR 5/2) fine sandy loam; weak medium prismatic structure parting to weak medium subangular blocky; friable; common fine roots; many coarse distinct yellowish brown (10YR 5/4) and few fine distinct

dark yellowish brown (10YR 4/4) masses of oxidized iron in the matrix; moderately acid; gradual smooth boundary.
Bg2—20 to 31 inches; grayish brown (10YR 5/2) fine sandy loam; weak medium prismatic structure parting to weak medium subangular blocky; friable; few fine roots; many medium distinct yellowish brown (10YR 5/4) and few fine distinct dark yellowish brown (10YR 4/4) masses of oxidized iron in the matrix; strongly acid; gradual smooth boundary.
Bg3—31 to 41 inches; grayish brown (10YR 5/2) fine sandy loam; weak medium prismatic structure parting to weak fine subangular blocky; friable; few fine roots; common medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; strongly acid; gradual smooth boundary.
Cg—41 to 60 inches; grayish brown (10YR 5/2) fine sandy loam; massive; very friable; many coarse distinct dark yellowish brown (10YR 4/4) masses of oxidized iron in the matrix; slightly acid.

Range in Characteristics

Depth to the base of the cambic horizon: 22 to 48 inches
Particle-size control section: 6 to 18 percent clay
Reaction in the control section: Strongly acid to neutral; at least one layer has pH of more than 5.0 by .01M $CaCl_2$.

A or Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—2 or 3
Texture—silt loam or loam
Reaction—moderately acid to neutral

BA, Bw, or Bg horizon:
Hue—10YR
Value—4 to 6
Chroma—1 to 6
Texture—silt loam, loam, fine sandy loam, or sandy loam; layers of loamy sand 1 to 3 inches thick in some pedons
Content of clay—6 to 18 percent
Content of sand—25 to 70 percent
Reaction—strongly acid to neutral
Content of rock fragments—0 to 10 percent gravel

C or Cg horizon:
Hue—10YR
Value—4 to 6
Chroma—1 to 4
Texture—fine sandy loam, sandy loam, loam, sandy clay loam, or stratified with these textures; strata of loamy sand or loamy fine sand in some pedons
Content of clay—6 to 27 percent
Content of sand—25 to 70 percent
Reaction—strongly acid to neutral
Content of rock fragments—0 to 14 percent gravel

Jennings Series

Taxonomic classification: Fine-silty, mixed, active, mesic Typic Fragiudults

Typical Pedon

Jennings silt loam, on a slope of 5 percent in a cultivated field; 1,030 feet west and 890 feet south of the northeast corner of section 16, T. 3 N., R. 7 E., Scott County, Indiana; USGS Blocher, Indiana, topographic quadrangle; lat. 38 degrees 42 minutes 19.946 seconds N. and long. 85 degrees 44 minutes 30.98 seconds W., UTM Zone 16, 609395.6 easting and 4284853.9 northing, NAD 83.

Ap—0 to 9 inches; 75 percent brown (10YR 4/3) and 25 percent yellowish brown (10YR 5/6) silt loam, light yellowish brown (10YR 6/4) and yellowish brown (10YR 5/6) dry; weak medium subangular blocky structure parting to moderate medium granular; friable; common fine and very fine roots; common fine iron-manganese concretions; neutral; abrupt smooth boundary.

Bt1—9 to 21 inches; yellowish brown (10YR 5/6) silty clay loam; moderate medium subangular blocky structure; friable; few very fine roots; many distinct strong brown (7.5YR 4/6) clay films on faces of peds; common distinct brownish yellow (10YR 6/6) silt coatings on faces of peds; common distinct dark yellowish brown (10YR 4/4) organic coatings on faces of peds; common fine iron-manganese concretions; slightly acid; clear wavy boundary.

Bt2—21 to 27 inches; yellowish brown (10YR 5/6) silt loam; moderate medium subangular blocky structure; friable; few very fine roots between peds; common distinct strong brown (7.5YR 4/6) and few grayish brown (10YR 5/2) clay films on faces of peds; many distinct light yellowish brown (10YR 6/4) silt coatings on faces of peds; common fine iron-manganese concretions; very strongly acid; gradual wavy boundary.

2Btx—27 to 38 inches; yellowish brown (10YR 5/6) silt loam; moderate very coarse prismatic structure parting to moderate thick platy; very firm; few very fine roots between peds; common prominent grayish brown (10YR 5/2) clay films on vertical faces of peds; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; few fine red (2.5YR 5/6) masses of oxidized iron on faces of peds and in pores; common fine iron-manganese concretions; common distinct light gray (10YR 7/2) clay depletions on faces of peds; 1 percent gravel; 65 percent brittle; very strongly acid; gradual wavy boundary.

3Btb1—38 to 49 inches; strong brown (7.5YR 5/6) clay loam; weak very coarse prismatic structure parting to weak medium subangular blocky; firm; common prominent grayish brown (10YR 5/2) clay films on vertical faces of peds; common distinct brown (7.5YR 4/4) clay films on faces of peds; common fine iron-manganese concretions; few prominent light gray (10YR 7/2) clay depletions on vertical faces of peds; few fine prominent light brownish gray (10YR 6/2) iron depletions in the matrix; 1 percent gravel; very strongly acid; gradual wavy boundary.

3Btb2—49 to 65 inches; strong brown (7.5YR 5/6) clay loam; moderate coarse subangular blocky structure; firm; common prominent gray (10YR 6/1) clay films on faces of peds; common prominent red (2.5YR 5/6) masses of oxidized iron on faces of peds; few fine prominent light brownish gray (10YR 6/2) iron depletions in the matrix; few prominent light gray (10YR 7/2) clay depletions on faces of peds; 2 percent gravel; extremely acid; gradual wavy boundary.

3Btb3—65 to 73 inches; strong brown (7.5YR 5/6) clay loam; moderate coarse subangular blocky structure; firm; common prominent gray (10YR 6/1) clay films on faces of peds; common medium faint yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common medium prominent light brownish gray (10YR 6/2) iron depletions in the matrix; 2 percent gravel; extremely acid; clear wavy boundary.

4BC—73 to 77 inches; 60 percent brown (7.5YR 4/4) and 40 percent strong brown (7.5YR 5/6) very parachannery silty clay; moderate medium platy structure; firm;

many medium distinct brown (7.5YR 5/2) iron depletions in the matrix; 50 percent parachanners (shale); extremely acid; abrupt wavy boundary.

4Cr—77 to 79 inches; black (10YR 2/1) and dark brown (7.5YR 3/4) weakly cemented shale bedrock; abrupt wavy boundary.

4R—79 to 89 inches; black, fissile, very strongly cemented shale bedrock.

Range in Characteristics

Depth to a fragipan: 20 to 32 inches; 15 to 20 inches in some pedons in severely eroded areas
Thickness of the loess: 30 to 50 inches
Depth to the base of the argillic horizon: 50 to 75 inches
Depth to bedrock (lithic contact): 60 to 90 inches

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—3 to 6
Texture—silt loam
Reaction—very strongly acid to neutral

A horizon (2 to 5 inches thick) (where present):
Hue—10YR
Value—3 or 4
Chroma—2 or 3
Texture—silt loam
Reaction—very strongly acid or strongly acid

Bt horizon:
Hue—7.5YR or 10YR
Value—5 or 6
Chroma—4 to 6
Texture—silt loam or silty clay loam
Reaction—extremely acid or very strongly acid; ranges to neutral in the upper part in areas that have been limed

2Btx horizon:
Hue—7.5YR or 10YR
Value—5 or 6
Chroma—4 to 6
Texture—silt loam; less commonly loam or silty clay loam
Reaction—extremely acid or very strongly acid
Content of rock fragments—1 to 2 percent fine gravel

3Bt horizon:
Hue—7.5YR or 10YR
Value—5 or 6
Chroma—4 to 6
Texture—clay loam; less commonly silty clay loam
Reaction—extremely acid or very strongly acid
Content of rock fragments—2 to 10 percent gravel

4BC, 4CB, or 4Btb horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 to 6
Texture—silty clay loam or silty clay or the parachannery to extremely parachannery analogs of these textures

Reaction—extremely acid or very strongly acid
Content of pararock fragments—5 to 70 percent parachanners

4Cr horizon (2 to 7 inches thick) (where present):
Hue—7.5YR or 10YR
Value—2 to 4
Chroma—1 to 4

Jessietown Series

Taxonomic classification: Fine-silty, mixed, semiactive, mesic Typic Hapludults

Typical Pedon

Jessietown silt loam, on a slope of 36 percent in a forested area; 925 feet southeast of the northwest boundary and 1,000 feet northeast of the southwest boundary in Clark Grant No. 297, Scott County, Indiana; USGS Blocher, Indiana, topographic quadrangle; lat. 38 degrees 38 minutes 19.163 seconds N. and long. 85 degrees 41 minutes 17.95 seconds W., UTM Zone 16, 614159 easting and 4277496 northing, NAD 83.

Oi—0 to 1 inch; partially decomposed leaves from mixed deciduous trees.
A—1 to 6 inches; dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; strong fine granular structure; friable; many fine and medium and few coarse roots; 1 percent parachanners (shale); very strongly acid; abrupt smooth boundary.
Bt1—6 to 15 inches; dark yellowish brown (10YR 4/4) silt loam; moderate fine subangular blocky structure; friable; common very fine to coarse and few very coarse roots; few faint dark yellowish brown (10YR 4/4) clay films on faces of peds; many distinct dark brown (10YR 3/3) organic coatings on faces of peds; 7 percent parachanners (shale); very strongly acid; clear wavy boundary.
Bt2—15 to 24 inches; dark yellowish brown (10YR 4/6) very parachannery silty clay loam; moderate fine subangular blocky structure; friable; common fine and medium and few coarse roots; common faint dark yellowish brown (10YR 4/4) clay films on faces of peds; 35 percent parachanners (shale); 5 percent channers (shale); extremely acid; clear wavy boundary.
CB—24 to 31 inches; 60 percent brown (7.5YR 4/4) and 40 percent yellowish red (5YR 4/6) extremely parachannery silty clay; weak fine subangular blocky structure; firm; few fine and medium roots; 60 percent parachanners (shale); 5 percent channers (shale); very strongly acid; abrupt wavy boundary.
R—31 to 40 inches; fractured, very strongly cemented black shale.

Range in Characteristics

Depth to bedrock (lithic contact): 20 to 40 inches

O horizon (where present):
Kind of material—slightly or partially decomposed organic material

A horizon:
Hue—10YR
Value—3 or 4
Chroma—3 or 4
Texture—silt loam
Reaction—extremely acid to strongly acid
Content of pararock fragments—0 to 5 percent parachanners (shale)
Content of rock fragments—0 to 3 percent channers (shale)

Bt horizon:
Hue—7.5YR or 10YR

Value—4 or 5
Chroma—4 to 6
Texture—silt loam, silty clay loam, or the parachannery or very parachannery analogs of these textures
Reaction—extremely acid to strongly acid
Content of pararock fragments—5 to 50 percent parachanners (shale)
Content of rock fragments—0 to 14 percent channers (shale)

BC or CB horizon:
Hue—5YR or 7.5YR
Value—4
Chroma—4 to 6
Texture—the very parachannery or extremely parachannery analogs of silty clay loam or silty clay
Reaction—extremely acid to strongly acid
Content of pararock fragments—35 to 75 percent parachanners (shale)
Content of rock fragments—0 to 14 percent channers (shale)

Medora Series

Taxonomic classification: Fine-silty, mixed, active, mesic Typic Fragiudults

Typical Pedon

Medora silt loam, on a south-facing slope of 8 percent in a cultivated field; 1,195 feet west and 1,400 feet south of the center of section 5, T. 5 N., R. 6 E.; Jackson County, Indiana; USGS Seymour, Indiana, topographic quadrangle; lat. 38 degrees 53 minutes 57.551 seconds N. and long. 85 degrees 53 minutes 3.761 seconds W., UTM Zone 16, 596741.739 easting and 4306192.045 northing, NAD 83.

Ap—0 to 8 inches; dark yellowish brown (10YR 4/4) silt loam, light yellowish brown (10YR 6/4) dry; moderate medium and coarse granular structure; friable; moderately acid; abrupt smooth boundary.
Bt—8 to 21 inches; yellowish brown (10YR 5/6) silt loam; moderate medium subangular blocky structure; friable; many distinct dark yellowish brown (10YR 4/6) clay films on faces of peds; many light yellowish brown (10YR 6/4) silt coatings on faces of peds; very strongly acid; clear wavy boundary.
2Btx1—21 to 33 inches; yellowish brown (10YR 5/4) silt loam; weak very coarse prismatic structure parting to weak very thick platy; very firm; common fine vesicular pores; many distinct brown (7.5YR 4/4) clay films on faces of peds and in pores; many fine and medium black (N 2.5/) and common fine yellowish red (5YR 5/8) iron-manganese concretions; common prominent light gray (10YR 7/2) clay depletions on faces of peds; common medium distinct light gray (10YR 7/2) iron depletions in the matrix; brittle; very strongly acid; clear wavy boundary.
2Btx2—33 to 45 inches; strong brown (7.5YR 5/6) and yellowish red (5YR 5/6) loam; weak very coarse prismatic structure parting to weak very thick platy; very firm; common fine vesicular pores; many prominent brown (7.5YR 4/4) clay films on faces of peds and in pores; common prominent light brownish gray (10YR 6/2) clay films on vertical faces of peds; few fine and medium black (N 2.5/) iron-manganese concretions; common prominent light gray (10YR 7/2) clay depletions on faces of peds; brittle; very strongly acid; gradual wavy boundary.
3Bt1—45 to 57 inches; yellowish red (5YR 4/6) clay loam; weak very thick platy structure parting to moderate medium angular blocky; firm; common fine pores; many prominent reddish brown (5YR 4/4) clay films on faces of peds; few prominent light brownish gray (10YR 6/2) clay films in root channels; common

distinct light brown (7.5YR 6/4) skeletans on faces of peds; very strongly acid; gradual wavy boundary.

3Bt2—57 to 70 inches; yellowish red (5YR 5/6) clay loam; moderate very thick platy structure; firm; many prominent reddish brown (5YR 4/4) clay films on faces of peds; common distinct light brown (7.5YR 6/4) skeletans on faces of peds; very strongly acid; gradual wavy boundary.

3Bt3—70 to 80 inches; red (2.5YR 4/6) sandy clay; weak coarse subangular blocky structure; firm; many prominent dark red (2.5YR 3/6) clay films on faces of peds; common prominent light brown (7.5YR 6/4) skeletans on faces of peds; common medium prominent black (N 2.5/) iron-manganese concretions; 4 percent gravel; very strongly acid.

Range in Characteristics

Thickness of the loess: 12 to 36 inches
Depth to a fragipan: 20 to 36 inches; 12 to 20 inches in some pedons in severely eroded areas
Depth to the base of the argillic horizon: More than 80 inches

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—3 to 6
Texture—silt loam
Reaction—very strongly acid to neutral

A horizon (where present):
Hue—10YR
Value—4 or 5
Chroma—3
Texture—silt loam
Reaction—very strongly acid or strongly acid

Bt horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 to 6
Texture—silt loam or silty clay loam
Reaction—commonly very strongly acid or extremely acid; ranges to neutral in the upper part

2Btx horizon:
Hue—7.5YR or 10YR; ranges to 5YR in the lower part
Value—4 to 6
Chroma—4 to 6
Texture—silt loam or loam; less commonly clay loam or gravelly loam
Reaction—very strongly acid
Content of rock fragments—0 to 15 percent gravel and 0 to 3 percent cobbles

3Bt horizon:
Hue—2.5YR or 5YR; less commonly 7.5YR
Value—4 or 5
Chroma—4 to 8
Texture—clay loam, sandy clay loam, or sandy clay; less commonly clay, gravelly clay loam, or gravelly sandy clay loam
Reaction—strongly acid or very strongly acid
Content of rock fragments—0 to 15 percent gravel and 0 to 3 percent cobbles

Miami Series

Taxonomic classification: Fine-loamy, mixed, active, mesic Oxyaquic Hapludalfs

Typical Pedon

Miami silt loam, on a convex slope of 3 percent in a cultivated field; 800 feet west and 300 feet south of the northeast corner of section 6, T. 15 N., R. 1 E., Hendricks County, Indiana; USGS Brownsburg, Indiana, topographic quadrangle; lat. 39 degrees 46 minutes 31.662 seconds N. and long. 86 degrees 27 minutes 37.188 seconds W., UTM Zone 16, 546217 easting and 4402976 northing, NAD 83.

Ap—0 to 8 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate fine granular structure; friable; neutral; abrupt smooth boundary.

Bt1—8 to 13 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine subangular blocky structure; firm; many distinct brown (7.5YR 4/4) clay films on faces of peds and on surfaces along pores; 1 percent rock fragments; moderately acid; abrupt wavy boundary.

2Bt2—13 to 23 inches; dark yellowish brown (10YR 4/4) clay loam; strong coarse subangular blocky structure; firm; many distinct brown (7.5YR 4/4) clay films on faces of peds and on surfaces along pores; 2 percent rock fragments; strongly acid; clear wavy boundary.

2Bt3—23 to 31 inches; dark yellowish brown (10YR 4/4) clay loam; moderate coarse subangular blocky structure; firm; many distinct brown (7.5YR 4/4) clay films on faces of peds and on surfaces along pores; common fine and medium distinct spherical very dark gray (10YR 3/1) iron-manganese masses in the matrix; 5 percent rock fragments; moderately acid; clear wavy boundary.

2BCt—31 to 36 inches; brown (10YR 4/3) loam; weak coarse prismatic structure; friable; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; common fine and medium distinct irregular very dark gray (10YR 3/1) iron-manganese masses in the matrix; common medium faint irregular light brownish gray (10YR 6/2) iron depletions in the matrix; 5 percent rock fragments; slightly effervescent; slightly alkaline; clear irregular boundary.

2Cd—36 to 80 inches; brown (10YR 5/3) loam; massive; very firm; few fine distinct irregular very dark gray (10YR 3/1) iron-manganese masses in the matrix; common medium faint irregular grayish brown (10YR 5/2) iron depletions in the matrix; 5 percent rock fragments; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the loess: Less than 18 inches
Depth to carbonates: 20 to 40 inches
Depth to the base of the argillic horizon: 24 to 40 inches

Ap or A horizon:
Hue—10YR
Value—3 to 5
Chroma—1 to 4
Texture—silt loam, loam, or clay loam
Reaction—moderately acid to neutral
Content of rock fragments—0 to 5 percent

Bt or 2Bt horizon:
Hue—7.5YR to 2.5Y
Value—4 to 6
Chroma—3 to 6
Texture—silt loam, silty clay loam, or clay loam

Reaction—strongly acid to neutral
Content of rock fragments—1 to 10 percent

BCt or 2BCt horizon:
Hue—7.5YR to 2.5Y
Value—4 to 6
Chroma—3 or 4
Texture—loam or fine sandy loam
Reaction—neutral or slightly alkaline
Content of rock fragments—1 to 10 percent

Cd or 2Cd horizon:
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—3 or 4
Texture—loam or fine sandy loam
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—1 to 10 percent

Millstone Series

Taxonomic classification: Fine-loamy, mixed, active, mesic Typic Hapludults

Typical Pedon

Millstone loam, on a slope of 1 percent in a cultivated field; 900 feet south and 760 feet west of the northeast corner of section 5, T. 8 S., R. 2 W., Perry County, Indiana; USGS Cloverport, Indiana, topographic quadrangle; lat. 37 degrees 50 minutes 59.1 seconds N. and long. 86 degrees 38 minutes 41.9 seconds W., UTM Zone 16, 531234 easting and 4189207 northing, NAD 83.

Ap—0 to 12 inches; brown (10YR 4/3) loam, light yellowish brown (10YR 6/4) dry; moderate fine granular structure; friable; common fine roots; very strongly acid; abrupt smooth boundary.

Bt1—12 to 18 inches; yellowish brown (10YR 5/6) loam; moderate fine subangular blocky structure; friable; common fine roots between peds; many distinct strong brown (7.5YR 4/6) clay films on faces of peds; 1 percent fine gravel; very strongly acid; clear wavy boundary.

Bt2—18 to 27 inches; strong brown (7.5YR 5/6) loam; moderate medium subangular blocky structure; friable; common fine roots between peds; many distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; very strongly acid; clear wavy boundary.

Bt3—27 to 43 inches; strong brown (7.5YR 5/6) loam; moderate medium subangular blocky structure; friable; many distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; very strongly acid; clear wavy boundary.

Bt4—43 to 52 inches; yellowish brown (10YR 5/6) loam; moderate medium subangular blocky structure; friable; many distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; very strongly acid; clear wavy boundary.

Bt5—52 to 59 inches; strong brown (7.5YR 5/6) loam; moderate medium subangular blocky structure; friable; many distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; very strongly acid; clear wavy boundary.

Bt6—59 to 65 inches; strong brown (7.5YR 5/6) loam; moderate medium subangular blocky structure; friable; many distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; common prominent light yellowish brown (10YR 6/4) skeletans on faces of peds; very strongly acid; clear wavy boundary.

Bt7—65 to 74 inches; brown (7.5YR 4/4) very fine sandy loam; few fine distinct light yellowish brown (10YR 6/4) mottles; common distinct brown (7.5YR 4/4) clay films

on faces of peds; very fine sand fillings in vertical cracks; very strongly acid; clear wavy boundary.

Bt8—74 to 80 inches; brown (7.5YR 4/4) loam; weak medium subangular blocky structure; friable; few faint brown (7.5YR 4/4) clay films on faces of peds; few fine prominent irregular black (10YR 2/1) iron-manganese concretions; common fine prominent light gray (10YR 7/2) iron depletions in the matrix; very strongly acid.

Range in Characteristics

Depth to the base of the argillic horizon: 60 to more than 80 inches
Depth to the base of soil development: More than 80 inches

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—3 or 4
Texture—loam or silt loam
Reaction—very strongly acid to neutral
Content of rock fragments—0 to 5 percent gravel

A horizon (2 to 5 inches thick) (where present):
Hue—10YR
Value—3 or 4
Chroma—2 or 3
Texture—loam or silt loam
Reaction—very strongly acid to moderately acid
Content of rock fragments—0 to 5 percent gravel

Bt horizon and BC horizon (where present):
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 to 6
Texture (above a depth of 40 inches)—loam; less commonly clay loam, fine sandy loam, or sandy loam
Texture (below a depth of 40 inches)—loam, fine sandy loam, very fine sandy loam, gravelly loam, or gravelly sandy loam
Reaction—very strongly acid to moderately acid
Content of rock fragments—0 to 12 percent above a depth of 40 inches; ranges to 34 percent below a depth of 40 inches

Muscatatuck Series

Taxonomic classification: Fine-silty, mixed, active, mesic Fragiaquic Paleudults

Typical Pedon

Muscatatuck silt loam (fig. 24), on a convex slope of 4 percent in a walnut agroforestry plantation; 950 feet south and 825 feet east of the northwest corner of section 21, T. 7 N., R. 9 E., Jennings County, Indiana; USGS Butlerville, Indiana, topographic quadrangle; lat. 39 degrees 2 minutes 29.485 seconds N. and long. 85 degrees 32 minutes 7.041 seconds W., UTM Zone 16, 626762 easting and 4322404 northing, NAD 83.

Ap—0 to 8 inches; silt loam, brown (10YR 4/3) crushed, light yellowish brown (10YR 6/4) dry; weak medium and coarse subangular blocky structure parting to moderate fine and medium granular; friable; many very fine to medium roots throughout; neutral; abrupt smooth boundary.

Figure 24.—Profile of a Muscatatuck soil. Depth is marked in inches.

Bt1—8 to 18 inches; yellowish brown (10YR 5/6) silt loam; moderate very fine and fine subangular blocky structure; firm; many very fine to medium roots throughout; many distinct dark yellowish brown (10YR 4/4) clay films on faces of peds and few distinct dark brown (10YR 3/3) organoargillans lining root channels and pores; moderately acid; clear smooth boundary.

Bt2—18 to 25 inches; yellowish brown (10YR 5/6) silt loam; moderate fine subangular blocky structure; firm; many very fine and fine roots throughout; common distinct brown (10YR 5/3) and dark yellowish brown (10YR 4/4) clay films on faces of peds; few fine distinct irregular pale brown (10YR 6/3) iron depletions and yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; very strongly acid; clear wavy boundary.

2Btx/Bt—25 to 36 inches; 60 percent strong brown (7.5YR 4/6) silt loam (2Btx); weak coarse prismatic structure parting to weak medium subangular blocky; very firm; brittle; 40 percent yellowish brown (10YR 5/6) silt loam (Bt); weak fine subangular blocky structure; friable; very fine and fine roots between peds; many distinct brown (10YR 5/3) and yellowish brown (10YR 5/4) and common distinct light brownish gray (10YR 6/2) clay films on faces of peds and pore linings; few fine prominent spherical moderately cemented black (10YR 2/1) iron-manganese concretions in the matrix; common fine prominent irregular light brownish gray

(10YR 6/2) iron depletions and few fine distinct irregular strong brown (7.5YR 5/8) masses of oxidized iron in the matrix; very strongly acid; clear wavy boundary.

2Bt1—36 to 49 inches; 70 percent strong brown (7.5YR 5/6) silty clay loam and 30 percent yellowish brown (10YR 5/4) silt loam; weak medium subangular blocky structure parting to weak fine subangular blocky; firm; many very fine roots between peds; many distinct yellowish brown (10YR 5/4) and yellowish red (5YR 4/6) and common brown (10YR 5/3) clay films on faces of peds and pore linings; few fine prominent black (10YR 2/1) mangans on faces of peds; few fine distinct spherical moderately cemented iron-manganese concretions in the matrix; few fine prominent irregular light brownish gray (10YR 6/2) iron depletions and few fine faint irregular brownish yellow (10YR 6/6) masses of oxidized iron in the matrix; 1 percent gravel; very strongly acid; gradual wavy boundary.

3Bt2—49 to 65 inches; 80 percent yellowish red (5YR 5/6) clay loam and 20 percent yellowish brown (10YR 5/6) silty clay loam; weak fine subangular blocky structure parting to moderate very fine subangular blocky; firm; many distinct dark red (2.5YR 3/6) and strong brown (7.5YR 5/6) and few distinct yellowish brown (10YR 5/6), grayish brown (10YR 5/2), and brown (10YR 5/3) clay films on faces of peds and pore linings; few fine prominent black (10YR 2/1) mangans on faces of peds; few fine prominent spherical strongly cemented black (10YR 2/1) iron-manganese concretions in the matrix; few fine faint irregular strong brown (7.5YR 4/6) masses of oxidized iron in the matrix; 5 percent gravel; very strongly acid; gradual wavy boundary.

3Bt3—65 to 89 inches; yellowish red (5YR 5/6) clay loam; moderate medium subangular blocky structure parting to moderate very fine and fine subangular blocky; friable; many distinct dark red (2.5YR 3/6) and few distinct brown (7.5YR 5/3 and 5/4) clay films on faces of peds; few fine prominent black (10YR 2/1) mangans on faces of peds and lining pores; few fine prominent spherical moderately cemented black (10YR 2/1) iron-manganese concretions in the matrix; 8 percent gravel; very strongly acid; clear wavy boundary.

3Bt4—89 to 109 inches; 60 percent strong brown (7.5YR 5/6) and 40 percent yellowish brown (10YR 5/8) clay loam; moderate fine and medium subangular blocky structure; firm; many distinct yellowish red (5YR 5/6) and few distinct brown (10YR 5/3) clay films on faces of peds; 10 percent gravel; very strongly acid.

Range in Characteristics

Depth to a layer with fragic soil properties: 20 to 36 inches
Thickness of the loess: 20 to 40 inches
Depth to the base of the argillic horizon: More than 80 inches
Depth to a lithic contact: More than 80 inches

Ap horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—2 to 6
Texture—silt loam
Reaction—very strongly acid to neutral

A horizon (where present):
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam
Reaction—very strongly acid or strongly acid

Bt horizon:
Hue—7.5YR or 10YR

Value—4 or 5
Chroma—4 to 8
Texture—silt loam or silty clay loam
Content of clay—20 to 32 percent
Reaction—very strongly acid to moderately acid

2Btx part of 2Btx/Bt horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 to 6
Texture—silt loam or loam; less commonly gravelly silt loam or gravelly loam
Content of clay—20 to 26 percent
Content of sand—10 to 27 percent
Content of rock fragments—0 to 20 percent, mainly spherical gravel of mixed lithology
Reaction—very strongly acid or strongly acid

Bt part of 2Btx/Bt horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 to 8
Texture—silt loam or silty clay loam
Content of clay—20 to 32 percent
Content of sand—5 to 20 percent
Reaction—very strongly acid to moderately acid

2Bt horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 to 8
Texture—silty clay loam or clay loam; less commonly silt loam, loam, gravelly silt loam, or gravelly loam
Content of clay—22 to 38 percent
Content of sand—10 to 27 percent
Content of rock fragments—1 to 20 percent, mainly spherical gravel of mixed lithology
Reaction—very strongly acid or strongly acid

3Bt horizon:
Hue—dominantly 5YR or 7.5YR; less commonly 10YR
Value—4 or 5
Chroma—4 to 8
Texture—clay loam or silty clay loam; less commonly silt loam, loam, gravelly silt loam, or gravelly loam
Content of clay—22 to 38 percent
Content of sand—10 to 35 percent
Reaction—very strongly acid or strongly acid
Content of rock fragments—5 to 25 percent, mainly gravel of mixed lithology

4Bt horizon (where present):
Hue—2.5YR to 7.5YR
Value—4 or 5
Chroma—4 to 8
Texture—silty clay or clay
Content of clay—40 to 73 percent
Content of sand—2 to 20 percent
Reaction—very strongly acid or strongly acid

Content of rock fragments—0 to 10 percent, mainly gravel and channers of chert and limestone

Nabb Series

Taxonomic classification: Fine-silty, mixed, active, mesic Aquic Fragiudalfs

Typical Pedon

Nabb silt loam (fig. 25), on a slope of 3 percent in a cultivated field; 1,190 feet west and 830 feet south of the center of section 21, T. 4 N., R. 7 E., Scott County, Indiana; USGS Crothersville, Indiana, topographic quadrangle; lat. 38 degrees 46 minutes 12.162 seconds N. and long. 85 degrees 45 minutes 10.932 seconds W., UTM Zone 16, 608328 easting and 4291998 northing, NAD 83.

Ap—0 to 7 inches; 75 percent dark yellowish brown (10YR 4/4) and 25 percent brownish yellow (10YR 6/6) silt loam, very pale brown (10YR 7/3) dry; moderate fine granular structure; friable; common very fine roots; few fine distinct spherical black (10YR 2/1) iron-manganese concretions; strongly acid; abrupt smooth boundary.

BE—7 to 13 inches; brownish yellow (10YR 6/6) silt loam; weak medium subangular blocky structure; friable; common very fine roots; few distinct very pale brown (10YR 7/3) silt coatings on faces of peds; common fine prominent spherical black (10YR 2/1) iron-manganese concretions; very strongly acid; clear wavy boundary.

Bt—13 to 20 inches; brownish yellow (10YR 6/6) silt loam; weak medium subangular blocky structure; friable; few very fine roots; few faint yellowish brown (10YR 5/6) clay films on faces of peds; common distinct light yellowish brown (10YR 6/4) silt coatings on faces of peds; common fine prominent spherical black (10YR 2/1) iron-manganese concretions; few fine prominent light gray (10YR 7/2) iron depletions in the matrix; very strongly acid; clear wavy boundary.

Bt/BE—20 to 33 inches; 65 percent yellowish brown (10YR 5/4) silty clay loam (Bt); moderate medium prismatic structure parting to moderate coarse subangular blocky; firm; few very fine roots; many distinct light brownish gray (10YR 6/2) and brown (10YR 5/3) clay films on faces of peds; many distinct pale brown (10YR 6/3) clay depletions on faces of peds; common fine distinct spherical black (10YR 2/1) iron-manganese concretions; common fine distinct light brownish gray (10YR 6/2) iron depletions in the matrix; 35 percent light yellowish brown (10YR 6/4) silt loam krotovinas and fillings of former root channels (BE); weak fine subangular blocky structure; friable; few very fine roots; very strongly acid; gradual wavy boundary.

2Btx/Bt—33 to 53 inches; 65 percent yellowish brown (10YR 5/8) silt loam (Btx); moderate very coarse prismatic structure parting to weak very thick platy; very firm; common prominent gray (10YR 6/1) clay films on faces of vertical peds; brittle; 35 percent yellowish brown (10YR 5/6) silt loam (Bt); weak medium subangular blocky structure; friable; common fine prominent light gray (10YR 7/2) iron depletions in the matrix of both parts of the horizon; few fine prominent spherical black (10YR 2/1) iron-manganese concretions; 1 percent fine and medium gravel; very strongly acid; gradual wavy boundary.

2Btx—53 to 71 inches; yellowish brown (10YR 5/8) silt loam; moderate very coarse prismatic structure; firm; few prominent gray (10YR 6/1) clay films on faces of peds; few fine prominent spherical black (10YR 2/1) iron-manganese concretions; common medium prominent light brownish gray (10YR 6/2) iron depletions in the matrix; 1 percent fine and medium gravel; 75 percent brittle; very strongly acid; diffuse wavy boundary.

3Btb—71 to 80 inches; strong brown (7.5YR 5/8) clay loam; moderate coarse subangular blocky structure; firm; common prominent gray (10YR 5/1) clay films on faces of peds; common medium prominent irregular black (10YR 2/1)

Figure 25.—Profile of a Nabb soil. Depth is marked in centimeters.

iron-manganese concretions; common medium prominent gray (10YR 6/1) iron depletions in the matrix; 8 percent gravel; moderately acid.

Range in Characteristics

Depth to a fragipan: 24 to 40 inches
Thickness of the loess: 60 to 90 inches
Depth to the base of the argillic horizon: More than 80 inches

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—3 or 4
Texture—silt loam
Reaction—very strongly acid to neutral

A horizon (where present):
Hue—10YR
Value—3 or 4
Chroma—3 or 4
Texture—silt loam
Reaction—very strongly acid or strongly acid

BE or EB horizon:
Hue—10YR
Value—5 or 6
Chroma—3 to 6
Texture—silt loam
Reaction—very strongly acid or strongly acid; ranges to neutral in areas that have been limed

Bt or Bt/BE horizon:
Hue—10YR
Value—5 or 6
Chroma—4 to 6
Texture—silt loam or silty clay loam in the Bt part; silt loam in the BE part
Reaction—extremely acid to strongly acid

2Btx/Bt or 2Btx horizon:
Hue—7.5YR or 10YR
Value—5 or 6
Chroma—4 to 8
Texture—silt loam or silty clay loam
Reaction—extremely acid to strongly acid
Content of rock fragments—1 to 2 percent fine or medium gravel

3Btb horizon:
Hue—7.5YR or 10YR
Value—5 or 6
Chroma—6 to 8; less commonly 2 (with hue of 10YR and value of 6)
Texture—commonly clay loam; less commonly loam
Reaction—strongly acid to neutral
Content of rock fragments—4 to 10 percent gravel

Oldenburg Series

Taxonomic classification: Coarse-loamy, mixed, active, mesic Fluvaquentic Eutrudepts

Typical Pedon

Oldenburg silt loam, on a slope of 1 percent in a cultivated field; 800 feet west and 1,800 feet south of the northeast corner of section 13, T. 10 N., R. 11 E., Franklin County, Indiana; USGS Batesville, Indiana, topographic quadrangle; lat. 39 degrees 19 minutes 5.555 seconds N. and long. 85 degrees 14 minutes 33.047 seconds W., UTM Zone 16, 651508 easting and 4353551 northing, NAD 83.

Ap—0 to 9 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate medium granular structure; friable; many fine roots; neutral; abrupt smooth boundary.

Bw1—9 to 17 inches; brown (10YR 4/3) loam; weak fine subangular blocky structure; friable; many fine roots; common distinct dark brown (10YR 3/3) organic coatings on faces of peds; neutral; clear wavy boundary.

Bw2—17 to 25 inches; brown (10YR 4/3) loam; weak fine subangular blocky structure; friable; common fine roots; common brown (10YR 4/3) organic coatings on faces of peds; common fine faint grayish brown (10YR 5/2) iron depletions in the matrix; neutral; clear wavy boundary.

Bw3—25 to 39 inches; brown (10YR 5/3) fine sandy loam; weak fine subangular blocky structure; friable; common fine roots; few brown (10YR 4/3) organic coatings on faces of peds; common fine faint grayish brown (10YR 5/2) iron depletions in the matrix; neutral; gradual wavy boundary.

C1—39 to 46 inches; brown (10YR 5/3) fine sandy loam; massive; friable; few fine roots; few fine faint light brownish gray (10YR 6/2) and grayish brown (10YR 5/2) iron depletions in the matrix; neutral; clear wavy boundary.
C2—46 to 53 inches; brown (10YR 5/3) loamy sand; massive; very friable; common fine faint grayish brown (10YR 5/2) iron depletions in the matrix; 1 percent gravel; neutral; clear wavy boundary.
C3—53 to 60 inches; brown (10YR 5/3) fine sandy loam; massive; friable; common fine faint grayish brown (10YR 5/2) iron depletions in the matrix; 1 percent gravel; neutral.

Range in Characteristics

Depth to the base of the cambic horizon: 22 to 44 inches

Ap or A horizon:
Hue—10YR
Value—4 or 5
Chroma—3
Texture—silt loam or loam
Reaction—strongly acid to neutral
Content of rock fragments—0 to 10 percent gravel

Bw horizon:
Hue—10YR
Value—4 to 6
Chroma—3 or 4
Texture—loam, silt loam, fine sandy loam, or sandy loam; thin strata of loamy sand or loamy fine sand in some pedons
Reaction—strongly acid to neutral
Content of rock fragments—0 to 10 percent gravel

C or Cg horizon:
Hue—10YR
Value—4 to 6
Chroma—1 to 4
Texture—fine sandy loam, sandy loam, or loam; some pedons have strata of sandy clay loam, loamy sand, and loamy fine sand and the gravelly analogs of all these textures
Reaction—moderately acid to neutral
Content of rock fragments—0 to 34 percent gravel and 0 to 5 percent cobbles

Otwell Series

Taxonomic classification: Fine-silty, mixed, active, mesic Oxyaquic Fragiudalfs
Taxadjunct features: The Otwell soil in map unit OmkC3 has more sand in the upper part of the subsoil than is defined as the range for the series. This difference, however, does not alter the usefulness or behavior of the soil. This soil is classified as a fine-loamy, mixed, active, mesic Oxyaquic Fragiudalf.

Typical Pedon

Otwell silt loam, on a convex slope of 5 percent in a cultivated field; 1,540 feet south and 640 feet west of the northeast corner of section 22, T. 1 S., R. 6 W., Dubois County, Indiana; USGS Otwell topographic quadrangle; lat. 38 degrees 25 minutes 5.821 seconds N. and long. 87 degrees 3 minutes 23.401 seconds W., UTM Zone 16, 495072.371 easting and 4252220.517 northing, NAD 83.

Ap—0 to 7 inches; dark yellowish brown (10YR 4/4) silt loam, light yellowish brown (10YR 6/4) dry; weak fine subangular blocky structure parting to moderate fine granular; friable; neutral; abrupt smooth boundary.

Bt1—7 to 17 inches; strong brown (7.5YR 5/6) silt loam; moderate medium subangular blocky structure; friable; many distinct brown (7.5YR 4/4) clay films on faces of peds; strongly acid; gradual smooth boundary.

Bt2—17 to 23 inches; strong brown (7.5YR 5/6) silt loam; moderate medium subangular blocky structure; friable; many distinct brown (7.5YR 4/4) clay films on faces of peds; few fine distinct light yellowish brown (10YR 6/4) iron depletions in the matrix; few fine prominent black (10YR 2/1) iron-manganese concretions; very strongly acid; gradual smooth boundary.

2Btx1—23 to 40 inches; brown (7.5YR 5/4) silt loam; weak very coarse prismatic structure parting to moderate medium subangular blocky; very firm; common distinct yellowish brown (10YR 5/4) clay films on faces of peds; common distinct light brownish gray (10YR 6/2) clay depletions on vertical faces of peds and filling vertical joints; common medium faint pale brown (10YR 6/3) and few fine distinct light brownish gray (10YR 6/2) iron depletions in the matrix; common fine prominent black (10YR 2/1) iron-manganese concretions; very strongly acid; gradual smooth boundary.

2Btx2—40 to 52 inches; brown (7.5YR 5/4) silt loam; weak very coarse prismatic structure parting to moderate thick platy; very firm; common distinct brown (7.5YR 4/4) clay films on faces of peds; few distinct light brownish gray (10YR 6/2) clay depletions on vertical faces of peds and filling vertical joints; few medium faint pale brown (10YR 6/3) iron depletions in the matrix; many fine prominent black (10YR 2/1) iron-manganese concretions; very strongly acid; gradual smooth boundary.

2Bt1—52 to 65 inches; brown (7.5YR 5/4) silt loam; moderate thick platy structure parting to moderate fine subangular blocky; friable; common distinct reddish brown (5YR 4/4) clay films on faces of peds; few fine prominent black (10YR 2/1) iron-manganese concretions; few medium faint pale brown (10YR 6/3) iron depletions in the matrix; strongly acid; gradual smooth boundary.

2Bt2—65 to 80 inches; reddish brown (5YR 5/4) silty clay loam; moderate very thick platy structure parting to moderate medium subangular blocky; friable; common faint reddish brown (5YR 5/4) clay films on faces of peds; few medium distinct pale brown (10YR 6/3) and few fine distinct light brownish gray (10YR 6/2) iron depletions in the matrix; few fine prominent black (10YR 2/1) iron-manganese concretions; strongly acid.

Range in Characteristics

Depth to the fragipan: 20 to 36 inches in noneroded and moderately eroded areas; ranges to 12 inches in severely eroded areas

Thickness of the loess: 20 to 40 inches

Depth to the base of the argillic horizon: 40 to more than 80 inches

Other features: Rock fragments, where present, have mixed lithology of glacial origin.

Ap horizon:

Hue—7.5YR, 10YR, or 2.5Y

Value—4 or 5

Chroma—3 to 6

Texture—commonly silt loam; less commonly silty clay loam

Reaction—strongly acid or very strongly acid in areas that have not been limed; ranges to neutral in areas that have been limed

A horizon (less than 4 inches thick):

Hue—10YR or 2.5Y

Value—3 or 4

Chroma—1 to 3
Texture—silt loam
Reaction—strongly acid or very strongly acid

E or EB horizon (where present):
Hue—10YR or 2.5Y
Value—4 or 5
Chroma—2 to 4
Texture—silt loam
Reaction—strongly acid or very strongly acid in areas that have not been limed; ranges to neutral in areas that have been limed

Bt or Btg horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—3 to 8 in the upper part; 1 to 8 in the lower part
Texture—silt loam or silty clay loam
Content of clay—22 to 34 percent
Content of sand—2 to 15 percent
Reaction—strongly acid or very strongly acid

2Btx, 2Btgx, Btgx, or Btx horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 7
Chroma—2 to 8
Content of clay—18 to 30 percent
Content of sand—2 to 40 percent
Texture—silt loam, silty clay loam, loam, or clay loam
Reaction—strongly acid or very strongly acid
Content of rock fragments—0 to 3 percent gravel

2Bt or 2Btg horizon:
Hue—5YR, 7.5YR, 10YR, or 2.5Y
Value—4 or 5
Chroma—2 to 4
Texture—silt loam, silty clay loam, sandy loam, sandy clay loam, or clay loam; minor strata of silty clay and fine sand in some pedons
Content of clay—20 to 34 percent
Content of sand—5 to 65 percent
Reaction—slightly acid to strongly acid in the upper part; strongly acid to moderately alkaline in the lower part
Content of rock fragments—0 to 3 percent gravel

2BC or 2BCg horizon (where present):
Hue—5YR, 7.5YR, 10YR, or 2.5Y
Value—4 or 5
Chroma—2 to 4
Texture—silt loam, silty clay loam, sandy loam, sandy clay loam, or clay loam (may be stratified); minor strata of silty clay and fine sand in some pedons
Content of clay—20 to 34 percent
Content of sand—5 to 65 percent
Reaction—slightly acid to strongly acid in the upper part; strongly acid to moderately alkaline in the lower part
Content of rock fragments—0 to 3 percent gravel

Pekin Series

Taxonomic classification: Fine-silty, mixed, active, mesic Aquic Fragiudults
Taxadjunct features: The Pekin soils in Jennings County do not have a subhorizon with a fragipan that has vertical streaks with a mean horizontal dimension of 4 inches or more. This difference, however, does not alter the usefulness or behavior of the soils. These soils are classified as fine-silty, mixed, active, mesic Fragiaquic Hapludults.

Typical Pedon

Pekin silt loam, on a slope of 3 percent in a cultivated field; 2,300 feet east and 2,100 feet south of the northwest corner of section 23, T. 2 S., R. 5 E., Floyd County, Indiana; USGS Georgetown, Indiana, topographic quadrangle; lat. 38 degrees 19 minutes 30.514 seconds N. and long. 85 degrees 55 minutes 48.014 seconds W., UTM Zone 16, 593530 easting and 4242423 northing, NAD 83.

Ap—0 to 10 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate medium granular structure; friable; many fine roots; neutral; abrupt smooth boundary.
Bt1—10 to 16 inches; yellowish brown (10YR 5/4) silt loam; moderate fine subangular blocky structure; friable; few faint yellowish brown (10YR 5/4) clay films on faces of peds; slightly acid; clear smooth boundary.
Bt2—16 to 24 inches; yellowish brown (10YR 5/4) silt loam; moderate medium and fine subangular blocky structure; friable; common distinct yellowish brown (10YR 5/6) clay films on faces of peds; common medium distinct grayish brown (10YR 5/2) iron depletions in the matrix; strongly acid; clear smooth boundary.
Btx1—24 to 29 inches; yellowish brown (10YR 5/6) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; few fine vesicular pores; many distinct dark yellowish brown (10YR 4/6) clay films on faces of peds; many medium prominent light brownish gray (10YR 6/2) iron depletions in the matrix; 35 percent brittle; strongly acid; gradual wavy boundary.
Btx2—29 to 45 inches; yellowish brown (10YR 5/6) silt loam; moderate coarse prismatic structure parting to moderate medium subangular blocky; firm; few fine vesicular pores; many prominent grayish brown (10YR 5/2) and common distinct dark yellowish brown (10YR 4/6) clay films on faces of peds; many medium prominent light brownish gray (10YR 6/2) iron depletions in the matrix; 45 percent brittle; extremely acid; gradual wavy boundary.
C—45 to 60 inches; yellowish brown (10YR 5/6) silt loam; massive; firm; many medium prominent light brownish gray (10YR 6/2) iron depletions in the matrix; very strongly acid.

Range in Characteristics

Thickness of the loess: 0 to 40 inches
Depth to a layer with fragic soil properties: 20 to 38 inches; 10 to 20 inches in severely eroded areas
Depth to the base of the argillic horizon: 40 to 70 inches

Ap horizon:
Hue—10YR
Value—4 to 6
Chroma—3 or 4
Texture—silt loam
Reaction—very strongly acid to neutral

A horizon (where present):
Hue—10YR

Value—4 or 5
Chroma—2 to 4
Texture—silt loam
Reaction—very strongly acid or strongly acid

Bt horizon:
Hue—10YR
Value—5 or 6
Chroma—3 to 6
Texture—silt loam or silty clay loam
Reaction—commonly very strongly acid or strongly acid; ranges to neutral in the upper part

Btx or Btgx horizon:
Hue—7.5YR or 10YR
Value—5 or 6
Chroma—2 to 8
Texture—silt loam or silty clay loam
Reaction—extremely acid to strongly acid
Content of rock fragments—0 to 7 percent gravel

C or Cg horizon:
Hue—7.5YR or 10YR
Value—5 or 6
Chroma—2 to 6
Texture—silt loam, silty clay loam, or loam; less commonly sandy loam or fine sandy loam
Reaction—very strongly acid to neutral
Content of rock fragments—0 to 14 percent gravel

Peoga Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Fragic Epiaqualfs

Typical Pedon

Peoga silt loam, on a slope of 0.5 percent in a cultivated field; 1,810 feet east and 645 feet north of the center of section 18, T. 4 N., R. 7 E., Scott County, Indiana; USGS Crothersville, Indiana, topographic quadrangle; lat. 38 degrees 47 minutes 18.021 seconds N. and long. 85 degrees 46 minutes 44.953 seconds W., UTM Zone 16, 606032 easting and 4293995 northing, NAD 83.

Ap—0 to 8 inches; light brownish gray (10YR 6/2) silt loam, light gray (10YR 7/1) dry; weak coarse subangular blocky structure parting to moderate medium granular; friable; few very fine roots; many fine faint brown (10YR 5/3) masses of oxidized iron in the matrix; common prominent yellowish red (5YR 5/6) pore linings; common fine prominent black (N 2.5/) mangans; krotovinas filled with brown (10YR 5/3) material; moderately acid; abrupt smooth boundary.

BEg—8 to 19 inches; light gray (10YR 7/2) silt loam; weak medium subangular blocky structure; friable; few very fine roots; common fine prominent reddish yellow (7.5YR 6/8) and common medium prominent brownish yellow (10YR 6/6) masses of oxidized iron in the matrix; common fine prominent black (N 2.5/) mangans in pores and root channels; krotovinas filled with brown (10YR 5/3) material; very strongly acid; gradual wavy boundary.

Btg1—19 to 27 inches; light gray (10YR 7/2) silt loam; weak coarse prismatic structure parting to weak medium subangular blocky; friable; few very fine roots; common distinct light brownish gray (10YR 6/2) clay films on vertical faces of

peds; common fine prominent reddish yellow (7.5YR 6/8) and common medium prominent brownish yellow (10YR 6/6) masses of oxidized iron in the matrix; common fine prominent black (N 2.5/) mangans on vertical faces of peds; krotovinas filled with brown (10YR 5/3) material; very strongly acid; gradual wavy boundary.

Btg2—27 to 36 inches; light gray (10YR 7/2) silt loam; moderate coarse prismatic structure parting to moderate coarse subangular blocky; friable; few very fine roots between peds; many distinct light brownish gray (10YR 6/2) clay films on vertical faces of peds; common fine prominent reddish yellow (7.5YR 6/8) and common medium distinct light yellowish brown (10YR 6/4) masses of oxidized iron in the matrix; common fine prominent black (N 2.5/) mangans on vertical faces of peds; krotovinas filled with brown (10YR 5/3) material; very strongly acid; gradual irregular boundary.

Btgx1—36 to 58 inches; 65 percent light gray (10YR 7/2) and 35 percent strong brown (7.5YR 5/6) silt loam; moderate coarse prismatic structure; firm; many distinct light brownish gray (10YR 6/2) clay films on vertical faces of peds; common medium distinct light yellowish brown (10YR 6/4) masses of oxidized iron in the matrix; common fine prominent black (N 2.5/) mangans on vertical faces of peds; 35 percent brittle; very strongly acid; gradual wavy boundary.

Btgx2—58 to 76 inches; 65 percent light gray (10YR 7/2) and 35 percent yellowish brown (10YR 5/6) silt loam; moderate coarse prismatic structure; firm; common prominent light brownish gray (10YR 6/2) clay films on vertical faces of peds; 35 percent brittle; strongly acid; diffuse wavy boundary.

2Btb—76 to 80 inches; strong brown (7.5YR 5/6) silty clay loam; moderate coarse subangular blocky structure; firm; common distinct light brownish gray (10YR 6/2) clay films on vertical and horizontal faces of peds; few fine faint yellowish red (5YR 5/6) masses of oxidized iron in the matrix; common coarse irregular iron-manganese concretions; many medium prominent light gray (10YR 7/2) iron depletions in the matrix; strongly acid.

Range in Characteristics

Thickness of the loess: 20 to 40 inches
Depth to a layer with fragic soil properties: 30 to 45 inches
Depth to the base of the argillic horizon: 55 to more than 80 inches

Ap horizon:
Hue—10YR
Value—4 to 6
Chroma—1 to 3
Texture—silt loam
Reaction—very strongly acid to neutral

A horizon (where present):
Hue—10YR
Value—4 to 6
Chroma—1 or 2
Texture—silt loam
Reaction—very strongly acid or strongly acid

Eg, EBg, or BEg horizon:
Hue—10YR or 2.5Y
Value—5 to 7
Chroma—1 or 2
Texture—silt loam
Reaction—extremely acid to strongly acid

Btg, Bt, Btgx, or Btx horizon:
Hue—7.5YR to 5Y
Value—5 to 7
Chroma—1 to 6
Texture—silt loam or silty clay loam; loam or clay loam included in the lower part
Reaction—extremely acid to strongly acid; ranges to moderately acid in the lower part
Content of rock fragments—0 to 2 percent gravel

2Btb or 2Btg horizon:
Hue—7.5YR or 10YR
Value—5
Chroma—1 to 6
Texture—silt loam, silty clay loam, clay loam, or loam
Reaction—strongly acid to neutral
Content of rock fragments—0 to 2 percent gravel

Piopolis Series

Taxonomic classification: Fine-silty, mixed, active, acid, mesic Fluvaquentic Endoaquepts

Typical Pedon

Piopolis silty clay loam, in a nearly level area in a cultivated field; 330 feet east and 2,255 feet south of the northwest corner of section 12, T. 6 N., R. 4 E., Jackson County, Indiana; USGS Brownstown, Indiana, topographic quadrangle; lat. 38 degrees 58 minutes 19.042 seconds N. and long. 86 degrees 2 minutes 20.033 seconds W., UTM Zone 16, 583257.466 easting and 4314104.762 northing, NAD 83.

Ap—0 to 10 inches; brown (10YR 5/3) silty clay loam, very pale brown (10YR 7/3) dry; weak medium subangular blocky structure parting to weak medium granular; friable; common very fine and fine roots; common fine prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; many fine spherical iron-manganese concretions; many fine faint light brownish gray (10YR 6/2) iron depletions in the matrix; neutral; clear smooth boundary.

Bg—10 to 31 inches; light gray (10YR 7/1) silty clay loam; weak coarse prismatic structure parting to weak coarse subangular blocky; firm; common very fine roots; common medium prominent reddish yellow (7.5YR 6/8) and distinct light yellowish brown (10YR 6/4) masses of oxidized iron in the matrix; many fine spherical iron-manganese concretions; strongly acid; gradual wavy boundary.

Cg—31 to 60 inches; light gray (10YR 7/1) silty clay loam; massive; firm; few very fine roots; few medium prominent reddish yellow (7.5YR 6/8) and many medium distinct light yellowish brown (10YR 6/4) masses of oxidized iron in the matrix; many fine spherical iron-manganese concretions; strongly acid.

Range in Characteristics

Ap horizon:
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—2 or 3
Texture—silty clay loam
Reaction—strongly acid to neutral

A horizon:
Hue—10YR or 2.5Y
Value—5 or 6

Chroma—1 or 2
Texture—silty clay loam
Reaction—strongly acid or moderately acid

Bg or Cg horizon:
Hue—10YR, 2.5Y, or N
Value—6 or 7
Chroma—0 to 2
Texture—silty clay loam; silt loam or silty clay loam below a depth of 40 inches
Reaction—very strongly acid or strongly acid above a depth of 40 inches; ranges to neutral below a depth of 40 inches

Rohan Series

Taxonomic classification: Loamy-skeletal, mixed, semiactive, mesic Lithic Dystrudepts

Typical Pedon

Rohan channery silt loam, on a slope of 40 percent in a forested area; 975 feet southeast of the northwest boundary and 900 feet northeast of the southwest boundary in Clark Grant No. 297, Scott County, Indiana; USGS Blocher, Indiana, topographic quadrangle; lat. 38 degrees 38 minutes 18.245 seconds N. and long. 85 degrees 41 minutes 19 seconds W., UTM Zone 16, 614135 easting and 4277465 northing, NAD 83.

A—0 to 4 inches; very dark grayish brown (10YR 3/2) channery silt loam, grayish brown (10YR 5/2) dry; moderate fine and medium granular structure; friable; common fine and medium and few coarse roots; 28 percent strongly cemented channers (shale); strongly acid; clear wavy boundary.
Bw1—4 to 10 inches; dark brown (7.5YR 3/4) channery silt loam; moderate fine subangular blocky structure; friable; common fine and medium and few coarse roots; 28 percent strongly cemented channers (shale); very strongly acid; clear wavy boundary.
Bw2—10 to 16 inches; brown (7.5YR 4/4) very channery silty clay loam; weak fine subangular blocky structure; friable; few fine and medium roots; 50 percent strongly cemented channers (shale); very strongly acid; abrupt wavy boundary.
R—16 to 40 inches; fractured, very strongly cemented black shale bedrock.

Range in Characteristics

Depth to bedrock (lithic contact): 10 to 20 inches

A horizon:
Hue—7.5YR or 10YR
Value—2 to 5
Chroma—2 to 4
Texture—silt loam, channery silt loam, or channery silty clay loam
Reaction—very strongly acid to moderately acid
Content of rock fragments—3 to 34 percent channers (shale)

Bw horizon:
Hue—7.5YR or 10YR
Value—3 to 5
Chroma—3 to 6
Texture—the channery, very channery, or extremely channery analogs of silt loam or silty clay loam
Reaction—extremely acid to strongly acid

Content of rock fragments—15 to 65 percent; averages more than 35 percent channers (shale)

Russell Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Hapludalfs

Typical Pedon

Russell silt loam, on a convex, southwest-facing slope of 4 percent in a cultivated field; 2,600 feet north and 2,000 feet west of the southeast corner of section 1, T. 14 N., R. 4 W., Putnam County, Indiana; USGS Greencastle, Indiana, topographic quadrangle; lat. 39 degrees 40 minutes 54.265 seconds N. and long. 86 degrees 48 minutes 2.428 seconds W., UTM Zone 16, 517094 easting and 4392454 northing, NAD 83.

Ap—0 to 8 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak medium granular structure; friable; many fine roots; many fine pores; slightly acid; abrupt smooth boundary.

Bt1—8 to 13 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium subangular blocky structure; friable; many fine roots; many fine pores; common distinct brown (7.5YR 4/4) clay films on faces of peds; strongly acid; clear wavy boundary.

Bt2—13 to 28 inches; brown (7.5YR 4/4) silty clay loam; moderate medium subangular blocky structure; firm; many fine roots; many distinct brown (7.5YR 4/4) clay films on faces of peds; very strongly acid; clear wavy boundary.

2Bt3—28 to 39 inches; dark yellowish brown (10YR 4/4) clay loam; moderate coarse subangular blocky structure; firm; common fine roots; common distinct brown (7.5YR 4/4) clay films on faces of peds; 3 percent rock fragments; strongly acid; clear wavy boundary.

2Bt4—39 to 52 inches; yellowish brown (10YR 5/4) clay loam; moderate medium subangular blocky structure; firm; few fine roots; few fine pores; common distinct brown (7.5YR 4/4) clay films on faces of peds; 3 percent rock fragments; strongly acid; clear wavy boundary.

2BCt—52 to 58 inches; yellowish brown (10YR 5/4) clay loam; weak coarse subangular blocky structure; firm; few distinct brown (7.5YR 4/4) clay films on faces of peds; few medium distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few very dark brown (7.5YR 2.5/2) very weakly cemented iron-manganese nodules throughout; 4 percent rock fragments; slightly effervescent; moderately alkaline; clear wavy boundary.

2Cd—58 to 80 inches; yellowish brown (10YR 5/4) loam; massive; very firm; 4 percent rock fragments; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the loess: 20 to 40 inches
Depth to the base of the argillic horizon: 40 to 60 inches
Depth to carbonates: 40 to 60 inches

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—2 or 3
Texture—silt loam
Reaction—strongly acid to neutral

Bt horizon:
Hue—7.5YR to 2.5Y
Value—4 or 5

Chroma—3 to 6
Texture—silt loam or silty clay loam
Reaction—very strongly acid to moderately acid

2Bt horizon:
Hue—7.5YR to 2.5Y
Value—4 or 5
Chroma—3 to 6
Texture—clay loam, loam, or silty clay loam
Reaction—strongly acid to neutral
Content of rock fragments—1 to 10 percent

2BCt or 2BC horizon:
Hue—7.5YR to 2.5Y
Value—4 or 5
Chroma—3 to 6
Texture—clay loam or loam
Reaction—neutral to moderately alkaline
Content of rock fragments—1 to 14 percent

2Cd horizon:
Hue—10YR or 2.5Y
Value—5
Chroma—3 to 6
Texture—loam or fine sandy loam
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—1 to 14 percent

Ryker Series

Taxonomic classification: Fine-silty, mixed, active, mesic Typic Paleudalfs

Typical Pedon

Ryker silt loam, on a slope of 1 percent in a cultivated field; 950 feet south and 2,000 feet west of the northeast corner of section 24, T. 3 N., R. 9 E., Jefferson County, Indiana; USGS Madison West topographic quadrangle; lat. 38 degrees 41 minutes 31.301 seconds N. and long. 85 degrees 28 minutes 4.777 seconds W., UTM Zone 16, 633234 easting and 4283719 northing, NAD 83.

Ap—0 to 6 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak fine granular structure; friable; common fine roots; neutral; abrupt smooth boundary.

BE—6 to 12 inches; yellowish brown (10YR 5/4) silt loam; weak fine and medium subangular blocky structure; friable; common fine roots; neutral; clear smooth boundary.

Bt1—12 to 27 inches; yellowish brown (10YR 5/6) silty clay loam; moderate medium subangular blocky structure; friable; few fine roots; many distinct brown (7.5YR 4/4) clay films on faces of peds; neutral; gradual wavy boundary.

Bt2—27 to 38 inches; yellowish brown (10YR 5/6) silt loam; moderate medium subangular blocky structure; friable; many distinct brown (7.5YR 4/4) clay films on faces of peds; few distinct very pale brown (10YR 7/3) silt coatings on faces of peds; strongly acid; gradual wavy boundary.

2Bt3—38 to 58 inches; yellowish red (5YR 5/6) silty clay loam; moderate medium subangular blocky structure; firm; many distinct reddish brown (5YR 4/4) clay films in pores and on faces of peds; few distinct pale brown (10YR 6/3) silt coatings on faces of peds; 3 percent fine gravel: very strongly acid; gradual wavy boundary.

2Bt4—58 to 67 inches; yellowish red (5YR 5/6) silty clay loam; weak medium and coarse subangular blocky structure; firm; many distinct reddish brown (5YR 4/4) clay films in pores and on faces of peds; common prominent light yellowish brown (10YR 6/4) silt coatings in channels; 3 percent fine gravel; very strongly acid; clear smooth boundary.

3Bt5—67 to 80 inches; yellowish red (5YR 5/6) silty clay; weak medium and coarse subangular blocky structure; firm; many distinct reddish brown (5YR 4/4) clay films in pores and on faces of peds; common prominent light yellowish brown (10YR 6/4) silt coatings in channels; 5 percent fine gravel; very strongly acid.

Range in Characteristics

Thickness of the loess: 20 to 40 inches
Depth to the base of the argillic horizon: 60 to more than 80 inches
Depth to bedrock (lithic contact): 60 to more than 100 inches

Ap horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—2 to 6
Texture—silt loam
Reaction—very strongly acid to neutral

A horizon (2 to 5 inches thick) (where present):
Hue—10YR
Value—3 or 4
Chroma—2 or 3
Texture—silt loam
Reaction—very strongly acid or strongly acid

Bt horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 to 8
Texture—silt loam or silty clay loam
Reaction—commonly very strongly acid or strongly acid; ranges to neutral in the upper part

2Bt horizon:
Hue—5YR or 7.5YR
Value—4 or 5
Chroma—4 to 8
Texture—commonly loam, silty clay loam, or clay loam; less commonly silt loam
Reaction—very strongly acid or strongly acid
Content of rock fragments—2 to 14 percent gravel

3Bt horizon or 3BC horizon (where present):
Hue—2.5YR or 5YR
Value—4 or 5
Chroma—4 to 8
Texture—silty clay or clay
Reaction—very strongly acid to moderately acid in the upper part; ranges to neutral in the lower part
Content of rock fragments—2 to 14 percent gravel and cobbles (chert and limestone)

Scottsburg Series

Taxonomic classification: Fine-silty, mixed, semiactive, mesic Aquic Hapludults

Typical Pedon

Scottsburg silt loam (fig. 26), on a slope of 3 percent in a cultivated field; 570 feet east and 570 feet north of the southwest corner of section 28, T. 4 N., R. 7 E., Scott County, Indiana; USGS Crothersville, Indiana, topographic quadrangle; lat. 38 degrees 45 minutes 8.249 seconds N. and long. 85 degrees 45 minutes 21.064 seconds W., UTM Zone 16, 608109.023 easting and 4290023.885 northing, NAD 83.

Ap—0 to 8 inches; 80 percent brown (10YR 4/3) and 20 percent yellowish brown (10YR 5/6) silt loam, pale brown (10YR 6/3) and very pale brown (10YR 7/4) dry; weak medium subangular blocky structure parting to moderate medium granular; friable; common very fine roots; strongly acid; abrupt smooth boundary.

Bt1—8 to 19 inches; yellowish brown (10YR 5/6) silt loam; moderate medium subangular blocky structure; friable; few fine roots; common distinct strong brown (7.5YR 4/6) clay films on faces of peds; common distinct brown (10YR 4/3) organic coatings in root channels and pores; strongly acid; gradual wavy boundary.

Bt2—19 to 27 inches; yellowish brown (10YR 5/6) silty clay loam; moderate medium subangular blocky structure; friable; few very fine roots; common distinct dark yellowish brown (10YR 4/6) clay films on faces of peds; very strongly acid; clear wavy boundary.

Bt3—27 to 31 inches; yellowish brown (10YR 5/6) silty clay loam; weak medium subangular blocky structure; friable; few very fine roots; common distinct dark yellowish brown (10YR 4/6) clay films on faces of peds; common fine distinct brown (10YR 5/3) iron depletions in the matrix; very strongly acid; clear wavy boundary.

2Btx1—31 to 43 inches; brown (10YR 5/3) silty clay loam; moderate coarse prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots between peds; common distinct grayish brown (10YR 5/2) clay films on vertical faces of peds; common fine prominent strong brown (7.5YR 5/6) and common fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; 4 percent gravel; 45 percent brittle; extremely acid; gradual wavy boundary.

2Btx2—43 to 53 inches; dark yellowish brown (10YR 4/6) silty clay loam; moderate coarse prismatic structure parting to moderate coarse subangular blocky; firm; many distinct gray (10YR 5/1) clay films on vertical faces of peds; common fine iron-manganese concretions; few fine prominent grayish brown (10YR 5/2) iron depletions in the matrix; 3 percent gravel; 45 percent brittle; extremely acid; clear wavy boundary.

3BCg—53 to 61 inches; grayish brown (10YR 5/2) parachannery silty clay; weak thin platy structure; firm; common medium prominent yellowish brown (10YR 5/6) and many medium prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; 20 percent parachanners (shale); extremely acid; clear wavy boundary.

3Cr—61 to 67 inches; very dark grayish brown (10YR 3/2) and brown (7.5YR 4/4), fractured, weakly cemented and moderately cemented shale; extremely acid; clear wavy boundary.

3R—67 to 80 inches; very dark gray (5YR 3/1), very strongly cemented, fissile black shale.

Range in Characteristics

Thickness of the loess: 20 to 40 inches
Depth to a layer with fragic soil properties: 24 to 36 inches
Depth to the base of the argillic horizon: 48 to 60 inches

Figure 26.—Profile of a Scottsburg soil. Depth is marked in feet.

Depth to bedrock (paralithic contact): 60 to 72 inches
Depth to bedrock (lithic contact): 64 to 80 inches

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—3 to 6

Texture—silt loam
Reaction—very strongly acid to neutral

A horizon (where present):
Hue—10YR
Value—4
Chroma—3 or 4
Texture—silt loam
Reaction—very strongly acid or strongly acid

Bt horizon:
Hue—10YR
Value—5 or 6
Chroma—4 to 6
Texture—silt loam or silty clay loam
Reaction—very strongly acid or strongly acid; ranges to slightly acid in the upper part in areas that have been limed

2Btx horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 to 8
Texture—silt loam or silty clay loam
Reaction—extremely acid or very strongly acid

3BC or 3BCg horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—2 to 8
Texture—parachannery silty clay loam or parachannery silty clay
Reaction—extremely acid or very strongly acid
Content of pararock fragments—15 to 34 percent parachanners

3Cr horizon:
Hue—7.5YR or 10YR
Value—2 to 4
Chroma—1 to 4

Senachwine Series

Taxonomic classification: Fine-loamy, mixed, active, mesic Typic Hapludalfs

Typical Pedon

Senachwine loam, on a convex, south-facing slope of 30 percent in a forested area; 400 feet west and 900 feet north of the southeast corner of section 2, T. 9 N., R. 7 E., Bartholomew County, Indiana; USGS Grammer, Indiana, topographic quadrangle; lat. 39 degrees 14 minutes 58.584 seconds N. and long. 85 degrees 42 minutes 23.73 seconds W., UTM Zone 16, 611606 easting and 4345273 northing, NAD 83.

Ap—0 to 8 inches; brown (10YR 4/3) loam, pale brown (10YR 6/3) dry; moderate medium granular structure; friable; common fine and medium roots; 3 percent rock fragments; neutral; abrupt smooth boundary.

Bt1—8 to 15 inches; dark yellowish brown (10YR 4/4) clay loam; moderate medium subangular blocky structure; firm; few fine roots; common faint dark yellowish brown (10YR 4/4) clay films on faces of peds; 3 percent rock fragments; slightly acid; clear smooth boundary.

Bt2—15 to 26 inches; dark yellowish brown (10YR 4/4) clay loam; moderate medium subangular blocky structure; firm; few fine roots; many faint dark yellowish brown (10YR 4/4) clay films on faces of peds; 3 percent rock fragments; neutral; clear smooth boundary.

BC—26 to 32 inches; dark yellowish brown (10YR 4/4) clay loam; weak coarse prismatic structure; firm; few fine roots; 3 percent rock fragments; slightly effervescent; slightly alkaline; clear smooth boundary.

C—32 to 60 inches; yellowish brown (10YR 5/4) loam; massive; firm; 3 percent rock fragments; strongly effervescent; moderately alkaline.

Range in Characteristics

Depth to carbonates: 20 to 40 inches
Depth to the base of the argillic horizon: 24 to 40 inches

Ap or A horizon:
Hue—10YR
Value—3 to 5
Chroma—1 to 4
Texture—loam
Reaction—moderately acid to neutral
Content of rock fragments—0 to 3 percent

Bt horizon:
Hue—7.5YR to 2.5Y
Value—4 to 6
Chroma—3 to 6
Texture—silty clay loam or clay loam
Reaction—strongly acid to slightly acid; neutral in the lower part
Content of rock fragments—1 to 10 percent

BC horizon:
Hue—7.5YR to 2.5Y
Value—4 to 6
Chroma—3 to 6
Texture—clay loam or loam
Reaction—neutral or slightly alkaline
Content of rock fragments—1 to 10 percent

C horizon:
Hue—7.5YR to 2.5Y
Value—5 or 6
Chroma—3 or 4
Texture—loam or fine sandy loam
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—1 to 10 percent

Shoals Series

Taxonomic classification: Fine-loamy, mixed, superactive, nonacid, mesic Fluventic Endoaquepts

Typical Pedon

Shoals silt loam, on a slope of 1 percent in a pastured area; 2,634 feet north and 2,037 feet west of the southeast corner of section 28, T. 8 N., R. 6 E., Bartholomew County, Indiana; USGS Azalia, Indiana, topographic quadrangle; lat. 39 degrees 6 minutes

24.988 seconds N. and long. 85 degrees 51 minutes 43.136 seconds W., UTM Zone 16, 598397 easting and 4329260 northing, NAD 83.

A—0 to 8 inches; dark grayish brown (10YR 4/2) silt loam, brown (10YR 5/3) dry; weak medium granular structure; friable; few roots; neutral; abrupt smooth boundary.
Bg—8 to 14 inches; dark grayish brown (10YR 4/2) silt loam; moderate fine subangular blocky structure; friable; few roots; few medium distinct dark yellowish brown (10YR 4/4) masses of oxidized iron in the matrix; many medium faint grayish brown (2.5Y 5/2) iron depletions in the matrix; fine voids with very dark grayish brown (10YR 3/2) linings; neutral; clear smooth boundary.
Bw—14 to 27 inches; brown (10YR 4/3) loam; weak medium granular structure; friable; few roots; common medium faint dark yellowish brown (10YR 4/4) masses of oxidized iron in the matrix; common medium faint grayish brown (2.5Y 5/2) iron depletions in the matrix; neutral; gradual smooth boundary.
Cg1—27 to 43 inches; dark grayish brown (10YR 4/2), stratified loam; weak coarse subangular blocky structure; friable; common medium faint brown (10YR 5/3) and prominent yellowish red (5YR 4/6) masses of oxidized iron in the matrix; neutral; gradual smooth boundary.
Cg2—43 to 60 inches; grayish brown (10YR 5/2) sandy loam; massive; friable; strata of silt loam and loam; common medium faint brown (10YR 5/3) and prominent yellowish red (5YR 4/6) masses of oxidized iron in the matrix; 10 percent rock fragments; slightly effervescent; moderately alkaline.

Range in Characteristics

Depth to the base of the cambic horizon: 20 to 60 inches

A or Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—2 or 3
Texture—silt loam or loam
Reaction—neutral or slightly alkaline
Content of rock fragments—0 to 3 percent

Bg or Bw horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 4
Texture—loam, silt loam, clay loam, or sandy clay loam
Reaction—neutral to moderately alkaline
Content of rock fragments—0 to 3 percent

Cg or C horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 to 6
Texture—loam, silt loam, clay loam, fine sandy loam, or sandy loam; thin strata of loamy sand or sand
Reaction—neutral to moderately alkaline
Content of rock fragments—0 to 14 percent

Steff Series

Taxonomic classification: Fine-silty, mixed, active, mesic Fluvaquentic Dystrudepts
Taxadjunct features: The Steff soil in map unit StaAH has less clay in the upper part of the subsoil than is defined as the range for the series. This difference, however,

does not alter the usefulness or behavior of the soil. This soil is classified as a coarse-silty, mixed, active, mesic Fluvaquentic Dystrudept.

Typical Pedon

Steff silt loam, on a slope of 1 percent in a cultivated field; 575 feet west and 65 feet north of the center of section 32, T. 3 N., R. 7 E., Scott County, Indiana; USGS Scottsburg, Indiana, topographic quadrangle; lat. 38 degrees 39 minutes 23.105 seconds N. and long. 85 degrees 46 minutes 2.463 seconds W., UTM Zone 16, 607252.36 easting and 4279371.493 northing, NAD 83.

Ap—0 to 11 inches; yellowish brown (10YR 5/4) silt loam, very pale brown (10YR 7/4) dry; weak coarse subangular blocky structure parting to moderate medium granular; friable; common very fine and fine and few medium roots; moderately acid; abrupt smooth boundary.

Bw1—11 to 23 inches; yellowish brown (10YR 5/6) silt loam; weak very coarse prismatic structure; friable; common very fine and fine roots; common distinct yellowish brown (10YR 5/4) organic coatings on faces of peds; few fine prominent strong brown (7.5YR 5/8) masses of oxidized iron on faces of peds; common fine spherical iron-manganese concretions; common fine distinct pale brown (10YR 6/3) and few fine prominent light brownish gray (10YR 6/2) iron depletions in the matrix; strongly acid; clear wavy boundary.

Bw2—23 to 41 inches; yellowish brown (10YR 5/6) silt loam; weak very coarse prismatic structure; friable; few very fine roots; few distinct yellowish brown (10YR 5/4) organic coatings on faces of peds; common fine distinct strong brown (7.5YR 5/8) masses of oxidized iron on faces of peds; many medium prominent light brownish gray (2.5Y 6/2) iron depletions in the matrix; very strongly acid; gradual wavy boundary.

C—41 to 60 inches; yellowish brown (10YR 5/6) silt loam; massive; friable; common fine faint strong brown (7.5YR 5/6 and 4/6) masses of oxidized iron in the matrix and lining pores; many medium prominent light brownish gray (2.5Y 6/2) iron depletions in the matrix; strongly acid.

Range in Characteristics

Depth to the base of the cambic horizon: 24 to 50 inches

Ap horizon:

Hue—10YR
Value—4 or 5
Chroma—3 or 4
Texture—silt loam
Reaction—very strongly acid to neutral

A horizon (where present):

Hue—10YR
Value—4 or 5
Chroma—3 or 4
Texture—silt loam
Reaction—very strongly acid or strongly acid

B or Bg horizon:

Hue—7.5YR or 10YR
Value—5 or 6
Chroma—2 to 6
Texture—silt loam; less commonly silty clay loam
Reaction—very strongly acid or strongly acid; ranges to slightly acid in the upper part in some pedons

C or Cg horizon:
Hue—10YR
Value—5 or 6
Chroma—2 to 6
Texture—silt loam; strata of sandy loam or loam below a depth of 40 inches
Reaction—very strongly acid or strongly acid

Stendal Series

Taxonomic classification: Fine-silty, mixed, active, acid, mesic Fluventic Endoaquepts

Typical Pedon

Stendal silt loam, on a slope of 0.5 percent in a cultivated field; 1,400 feet north and 395 feet west of the southeast corner of section 29, T. 3 N., R. 7 E., Scott County, Indiana; USGS Scottsburg, Indiana, topographic quadrangle; lat. 38 degrees 40 minutes 3.176 seconds N. and long. 85 degrees 45 minutes 26.936 seconds W., UTM Zone 16, 608096 easting and 4280618 northing, NAD 83.

Ap—0 to 8 inches; yellowish brown (10YR 5/4) silt loam, very pale brown (10YR 7/4) dry; weak medium subangular blocky structure parting to moderate medium granular; friable; common very fine roots; slightly acid; abrupt smooth boundary.

Bw—8 to 17 inches; light yellowish brown (10YR 6/4) silt loam; weak coarse prismatic structure; friable; common very fine roots; common distinct yellowish brown (10YR 5/4) organic coatings on faces of peds; common fine prominent brownish yellow (10YR 6/8) masses of oxidized iron in the matrix; few fine prominent spherical black (10YR 2/1) iron-manganese concretions; many medium distinct light brownish gray (2.5Y 6/2) iron depletions in the matrix; very strongly acid; gradual wavy boundary.

Bg—17 to 40 inches; light brownish gray (2.5Y 6/2) silt loam; weak coarse prismatic structure; friable; few very fine roots; few distinct yellowish brown (10YR 5/4) organic coatings on vertical faces of peds; many medium distinct light yellowish brown (10YR 6/4) and common prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; common fine spherical and few medium irregular iron-manganese concretions; very strongly acid; gradual smooth boundary.

Cg—40 to 60 inches; light brownish gray (2.5Y 6/2) silt loam; massive; firm; many medium prominent strong brown (7.5YR 5/8) and common medium distinct light yellowish brown (10YR 6/4) masses of oxidized iron in the matrix; common medium irregular and few medium irregular iron-manganese concretions; very strongly acid.

Range in Characteristics

Depth to the base of the cambic horizon: 24 to 48 inches

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam
Reaction—very strongly acid to neutral

A horizon (1 to 3 inches thick) (where present):
Hue—10YR
Value—3 or 4
Chroma—1 or 2
Texture—silt loam
Reaction—very strongly acid or strongly acid

Bw or Bg horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 6
Texture—silt loam; less commonly silty clay loam
Reaction—very strongly acid or strongly acid

Cg or C horizon:
Hue—10YR or 2.5Y
Value—4 to 7
Chroma—1 to 6
Texture—silt loam or silty clay loam; strata of sandy loam, loam, or fine sandy loam below a depth of 40 inches in some pedons
Reaction—very strongly acid or strongly acid

Stonelick Series

Taxonomic classification: Coarse-loamy, mixed, superactive, calcareous, mesic Typic Udifluvents

Typical Pedon

Stonelick fine sandy loam, on a slope of 1 percent in a cultivated field on the flood plain along the East Fork of the White River; 2,370 feet west and 2,170 feet south of the northeast corner of section 28, T. 8 N., R. 6 E., Bartholomew County, Indiana; USGS Azalia, Indiana, topographic quadrangle; lat. 39 degrees 11 minutes 55.385 seconds N. and long. 85 degrees 58 minutes 2.675 seconds W., UTM Zone 16, 589163 easting and 4339337 northing, NAD 83.

Ap—0 to 10 inches; brown (10YR 4/3) fine sandy loam, pale brown (10YR 6/3) dry; moderate medium granular structure; very friable; slightly effervescent; slightly alkaline; abrupt smooth boundary.
C1—10 to 23 inches; dark yellowish brown (10YR 4/4) loam; weak medium subangular blocky structure; many faint brown (10YR 4/3) organic coatings on faces of peds; slightly effervescent; moderately alkaline; clear wavy boundary.
C2—23 to 34 inches; brown (10YR 5/3) sandy loam; weak coarse subangular blocky structure; very friable; few small snail shells; slightly effervescent; moderately alkaline; clear wavy boundary.
C3—34 to 60 inches; pale brown (10YR 6/3) sand; single grain; loose; strongly effervescent; slightly alkaline.

Range in Characteristics

Content of rock fragments: 0 to 14 percent throughout the series control section
Occurrence of carbonates: Throughout the profile

Ap or A horizon:
Hue—10YR
Value—3 to 5
Chroma—3 or 4
Texture—fine sandy loam
Reaction—slightly alkaline or moderately alkaline

C horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—2 to 4

Texture—stratified loam, sandy loam, silt loam, fine sandy loam, sand, or loamy sand
Reaction—slightly alkaline or moderately alkaline

Trappist Series

Taxonomic classification: Fine, mixed, semiactive, mesic Typic Hapludults

Typical Pedon

Trappist silt loam, on a slope of 16 percent in a forested area; 460 feet east and 1,520 feet north of the center of section 10, T. 4 N., R. 7 E., Scott County, Indiana; USGS Deputy, Indiana, topographic quadrangle; lat. 38 degrees 48 minutes 19.213 seconds N. and long. 85 degrees 43 minutes 43.903 seconds W., UTM Zone 16, 610373 easting and 4295941 northing, NAD 83.

Oi—0 to 1 inch; partially decomposed leaves; abrupt smooth boundary.
A—1 to 3 inches; dark brown (10YR 3/3) silt loam, light brownish gray (10YR 6/2) dry; moderate fine and medium granular structure; friable; many fine and common coarse roots; very strongly acid; abrupt wavy boundary.
E—3 to 6 inches; light yellowish brown (10YR 6/4) silt loam; weak medium and coarse subangular blocky structure; friable; common fine and medium roots; few distinct dark grayish brown (10YR 4/2) organic coatings in root channels and pores; very strongly acid; clear wavy boundary.
Bt1—6 to 11 inches; yellowish brown (10YR 5/6) silty clay loam; weak medium and coarse subangular blocky structure; friable; common fine and medium roots; few distinct strong brown (7.5YR 5/6) clay films on faces of peds; very strongly acid; clear wavy boundary.
Bt2—11 to 22 inches; strong brown (7.5YR 5/6) silty clay; moderate medium angular blocky structure; firm; common fine and medium roots between peds; many distinct strong brown (7.5YR 4/6) clay films on faces of peds; common distinct brownish yellow (10YR 6/6) silt coatings on faces of peds; very strongly acid; clear wavy boundary.
Bt3—22 to 30 inches; yellowish brown (10YR 5/6) silty clay; moderate medium angular blocky structure; firm; few medium and common very fine and fine roots between peds; many distinct strong brown (7.5YR 5/6) clay films on faces of peds; many distinct light yellowish brown (10YR 6/4) silt coatings on faces of peds; very strongly acid; clear wavy boundary.
BC—30 to 35 inches; yellowish brown (10YR 5/6) very parachannery silty clay loam; many medium prominent light olive gray (5Y 6/2) and common medium faint strong brown (7.5YR 5/6) mottles; moderate thick platy structure parting to moderate fine angular blocky; firm; common very fine roots between peds; very strongly acid; 35 percent parachanners (shale); clear wavy boundary.
Cr—35 to 40 inches; 60 percent yellowish brown (10YR 5/6) and 40 percent strong brown (7.5YR 5/8), weakly cemented shale; common prominent light gray (2.5Y 7/2) coatings on pararock fragments; very strongly acid; gradual wavy boundary.
R—40 to 60 inches; 60 percent very dark gray (10YR 3/1) and 40 percent yellowish brown (10YR 5/4), fractured, very strongly cemented shale.

Range in Characteristics

Thickness of the silty material: 0 to 14 inches
Depth to bedrock (lithic contact): 20 to 40 inches

O horizon (where present):
Material—slightly or partially decomposed organic material

A horizon (1 to 3 inches thick):
Hue—10YR
Value—3 or 4
Chroma—2 or 3
Texture—silt loam
Reaction—very strongly acid or strongly acid

Ap horizon (where present):
Hue—10YR
Value—4 or 5
Chroma—3 to 6
Texture—silt loam or silty clay loam
Reaction—very strongly acid to neutral

E horizon (where present):
Hue—10YR
Value—5 or 6
Chroma—2 to 4
Texture—silt loam
Reaction—very strongly acid or strongly acid

Bt horizon:
Hue—7.5YR or 10YR
Value—5 or 6
Chroma—4 to 8
Texture—silty clay loam, silty clay, parachannery silty clay loam, or parachannery silty clay
Reaction—extremely acid to strongly acid
Content of pararock fragments—0 to 30 percent parachanners (shale)

BC or CB horizon:
Hue—7.5YR or 10YR
Value—5 or 6
Chroma—4 to 8
Texture—the parachannery to extremely parachannery analogs of silty clay loam or silty clay
Reaction—extremely acid to strongly acid
Content of pararock fragments—15 to 70 percent parachanners (shale)

Wakeland Series

Taxonomic classification: Coarse-silty, mixed, superactive, nonacid, mesic Aeric Fluvaquents

Typical Pedon

Wakeland silt loam, in a nearly level area in a cultivated field; 2,000 feet southwest of the east corner and then 1,000 feet northwest of the southeast boundary of donation 187, T. 4 N., R. 9 W., Knox County, Indiana; USGS Oaktown, Indiana, topographic quadrangle; lat. 38 degrees 46 minutes 48.35 seconds N. and long. 87 degrees 24 minutes 22.991 seconds W., UTM Zone 16, 464706.413 easting and 4292453.118 northing, NAD 83.

Ap—0 to 7 inches; dark grayish brown (10YR 4/2) silt loam, pale brown (10YR 6/3) dry; weak medium granular structure; friable; many fine roots; neutral; abrupt smooth boundary.

Cg1—7 to 23 inches; grayish brown (10YR 5/2) silt loam; weak medium granular structure; friable; common fine roots; many fine faint brown (10YR 5/3) masses of oxidized iron in the matrix; neutral; clear wavy boundary.
Cg2—23 to 29 inches; grayish brown (10YR 5/2) silt loam; weak fine granular structure; friable; common fine roots; common medium distinct yellowish brown (10YR 5/4) masses of oxidized iron in the matrix; few fine faint gray (10YR 5/1) iron depletions in the matrix; neutral; gradual wavy boundary.
Cg3—29 to 60 inches; grayish brown (10YR 5/2) silt loam; massive; friable; many medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; slightly acid.

Range in Characteristics

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam
Reaction—moderately acid to neutral

A horizon (1 to 3 inches thick) (where present):
Hue—10YR
Value—3 or 4
Chroma—1
Texture—silt loam
Reaction—moderately acid to neutral

C or Cg horizon:
Hue—10YR; less commonly 7.5YR or 2.5Y
Value—4 to 7
Chroma—1 to 6
Texture—silt loam; strata of loam, fine sandy loam, or sandy loam included in the lower part
Reaction—moderately acid to neutral

Whitcomb Series

Taxonomic classification: Fine-silty, mixed, active, mesic Aeric Paleaquults

Typical Pedon

Whitcomb silt loam, on a slope of 1 percent in a pasture; 210 feet east and 180 feet south of the center of section 30, T. 4 N., R. 7 E., Scott County, Indiana; USGS Crothersville, Indiana, topographic quadrangle; lat. 38 degrees 45 minutes 25.974 seconds N. and long. 85 degrees 47 minutes 6.041 seconds W., UTM Zone 16, 605567.472 easting and 4290535.936 northing, NAD 83.

A—0 to 2 inches; brown (10YR 4/3) silt loam, very pale brown (10YR 7/3) dry; moderate fine granular structure; friable; many very fine and fine roots; moderately acid; abrupt smooth boundary.
Ap—2 to 9 inches; brown (10YR 5/3) silt loam, very pale brown (10YR 7/3) dry; moderate medium granular structure; friable; common very fine and fine roots; common fine faint light yellowish brown (10YR 6/4) masses of oxidized iron in the matrix; common medium irregular iron-manganese concretions; 1 percent gravel; moderately acid; abrupt smooth boundary.
BE—9 to 15 inches; light yellowish brown (10YR 6/4) silt loam; weak fine subangular blocky structure; friable; common very fine roots; common fine prominent brownish yellow (10YR 6/8) masses of oxidized iron in the matrix; common fine irregular

iron-manganese concretions; common medium distinct light gray (10YR 7/2) iron depletions in the matrix; 1 percent gravel; extremely acid; clear wavy boundary.

Btg1—15 to 22 inches; light brownish gray (10YR 6/2) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; friable; few very fine roots between peds; many distinct light brownish gray (10YR 6/2) clay films on faces of peds; many medium distinct light yellowish brown (10YR 6/4) and common medium prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; few fine irregular iron-manganese concretions; 1 percent gravel; extremely acid; clear wavy boundary.

Btg2—22 to 30 inches; light brownish gray (10YR 6/2) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots between peds; many distinct gray (10YR 6/1) clay films on faces of peds; many medium prominent strong brown (7.5YR 5/8) and common distinct light yellowish brown (10YR 6/4) masses of oxidized iron in the matrix; common medium irregular iron-manganese concretions; 1 percent gravel; extremely acid; gradual wavy boundary.

2Btgx1—30 to 37 inches; gray (10YR 6/1) silty clay loam; moderate coarse prismatic structure parting to moderate coarse subangular blocky; firm; many distinct gray (10YR 6/1 and 5/1) clay films on faces of peds; few fine prominent very dark gray (N 3/) mangans on faces of peds and in pores; many medium prominent strong brown (7.5YR 5/8) and few medium distinct light yellowish brown (10YR 6/4) masses of oxidized iron in the matrix; 2 percent gravel; 40 percent brittle; extremely acid; clear wavy boundary.

2Btgx2—37 to 48 inches; gray (10YR 6/1) silty clay loam; weak coarse prismatic structure parting to moderate coarse subangular blocky; firm; common prominent gray (10YR 5/1) clay films on faces of peds; few fine prominent very dark gray (N 3/) mangans on faces of peds and in pores; many coarse prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; 2 percent gravel; 50 percent brittle; extremely acid; gradual wavy boundary.

3Btg—48 to 56 inches; gray (10YR 6/1) silty clay; weak medium subangular blocky structure; firm; few prominent gray (10YR 5/1) clay films on faces of peds; many coarse prominent strong brown (7.5YR 5/8) masses of oxidized iron in the matrix; 2 percent gravel; extremely acid; clear wavy boundary.

3BCg—56 to 61 inches; 60 percent light brownish gray (10YR 6/2) and 30 percent pinkish gray (7.5YR 6/2) very parachannery silty clay loam; moderate thick platy structure; firm; many medium distinct brown (7.5YR 4/4) and few fine prominent strong brown (7.5YR 5/8) masses of oxidized iron in the matrix; 40 percent parachanners (shale); extremely acid; abrupt wavy boundary.

3R—61 to 80 inches; very dark gray (10YR 3/1), very strongly cemented, fissile shale.

Range in Characteristics

Thickness of the loess: 24 to 40 inches
Depth to a layer with fragic soil properties: 24 to 36 inches
Depth to the base of the argillic horizon: 48 to 65 inches
Depth to bedrock (lithic contact): 60 to 80 inches

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—3 or 4
Texture—silt loam
Reaction—very strongly acid to neutral

A horizon (0 to 4 inches thick):
Hue—10YR

Value—3 or 4
Chroma—3 or 4
Texture—silt loam
Reaction—very strongly acid or strongly acid

BE horizon:
Hue—10YR
Value—6
Chroma—3 to 6
Texture—silt loam
Reaction—extremely acid or very strongly acid

Btg horizon:
Hue—10YR
Value—6 or 7
Chroma—1 or 2
Texture—silt loam or silty clay loam
Reaction—extremely acid or very strongly acid

2Btgx horizon:
Hue—10YR
Value—5 to 7
Chroma—1 or 2
Texture—silty clay loam
Reaction—extremely acid or very strongly acid
Content of rock fragments—1 to 3 percent gravel

3Btg horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—1 or 2
Texture—silty clay loam or silty clay
Reaction—extremely acid or very strongly acid
Content of rock fragments—1 to 3 percent gravel

3BCg horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—1 or 2
Texture—the parachannery to extremely parachannery analogs of silty clay loam or silty clay
Reaction—extremely acid or very strongly acid
Content of pararock fragments—15 to 60 parachanners

Wilbur Series

Taxonomic classification: Coarse-silty, mixed, superactive, mesic Fluvaquentic Eutrudepts

Typical Pedon

Wilbur silt loam, in a nearly level area in a cultivated field; 2,245 feet north and 1,450 feet east of the southwest corner of donation 99, T. 1 S., R. 10 W., Gibson County, Indiana; USGS Patoka, Indiana, topographic quadrangle; lat. 38 degrees 24 minutes 46.788 seconds N. and long. 87 degrees 34 minutes 10.309 seconds W., UTM Zone 16, 450283 easting and 4251774 northing, NAD 83.

Ap—0 to 7 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate medium granular structure; friable; neutral; clear smooth boundary.

Bw1—7 to 17 inches; dark yellowish brown (10YR 4/4) silt loam; weak fine subangular blocky structure; friable; few fine roots; few fine faint brown (10YR 5/3) iron depletions in the matrix; neutral; gradual smooth boundary.

Bw2—17 to 32 inches; brown (10YR 5/3) silt loam; weak medium subangular blocky structure; friable; few fine faint grayish brown (10YR 5/2) iron depletions in the matrix; neutral; clear smooth boundary.

Cg—32 to 60 inches; light brownish gray (10YR 6/2) silt loam; massive; friable; many fine distinct brown (7.5YR 4/4) and common fine distinct dark yellowish brown (10YR 4/4) masses of oxidized iron in the matrix; neutral.

Range in Characteristics

Depth to the base of the cambic horizon: 24 to 42 inches

Ap or A horizon:
Hue—10YR
Value—4
Chroma—2 to 4
Texture—silt loam
Reaction—moderately acid to neutral

Bw horizon:
Hue—10YR
Value—4 or 5
Chroma—3 to 6
Texture—silt loam
Reaction—moderately acid to neutral

C or Cg horizon:
Hue—10YR
Value—4 to 6
Chroma—2 to 6
Texture—silt loam; loam and thin strata of fine sandy loam or sandy loam included in the lower part
Reaction—moderately acid to neutral

Wilhite Series

Taxonomic classification: Fine, mixed, active, nonacid, mesic Fluvaquentic Endoaquepts

Typical Pedon

Wilhite silt loam, on a slope of about 0.5 percent in an idle field; 1,510 feet south and 1,260 feet east of the northwest corner of section 6, T. 7 N., R. 7 E., Jennings County, Indiana; USGS Azalia, Indiana, topographic quadrangle; lat. 39 degrees 4 minutes 53 seconds N. and long. 85 degrees 47 minutes 40 seconds W., UTM Zone 16, 604264.8 easting and 4326520.8 northing, NAD 83.

Ap—0 to 10 inches; brown (10YR 5/3) silt loam, very pale brown (10YR 7/3) dry; weak medium granular structure; friable; common very fine roots; common fine distinct spherical black (10YR 2/1) iron-manganese concretions throughout; strongly acid; clear smooth boundary.

Cg—10 to 19 inches; grayish brown (10YR 5/2) silt loam; weak coarse subangular blocky structure; friable; neutral; clear smooth boundary.

2Ab—19 to 31 inches; gray (10YR 5/1) silty clay loam; weak medium granular structure; firm; common fine roots; neutral; abrupt smooth boundary.
2Bgb—31 to 49 inches; gray (10YR 5/1) silty clay loam; weak medium prismatic structure parting to moderate coarse angular blocky; firm; few fine roots; common medium distinct yellowish brown (10YR 5/4) masses of oxidized iron in the matrix; strongly acid; clear smooth boundary.
2BCgb—49 to 65 inches; dark gray (10YR 4/1) silty clay; weak coarse subangular blocky structure; firm; many medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; strongly acid; gradual smooth boundary.
2Cg—65 to 85 inches; gray (10YR 5/1) silty clay; massive; firm; common medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; many fine and medium distinct black (10YR 2/1) iron-manganese concretions; moderately acid.

Range in Characteristics

Thickness of the overwash: 10 to 20 inches
Depth to the base of the cambic horizon: 40 to 70 inches

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam
Reaction—very strongly acid to neutral

Cg horizon:
Hue—10YR to 5Y or N
Value—4 to 6
Chroma—0 to 2
Texture—silt loam or loam
Reaction—strongly acid to neutral

2Ab horizon:
Hue—10YR to 5Y
Value—4 or 5
Chroma—1 to 3
Texture—silty clay loam
Reaction—strongly acid to neutral

2Bgb or BCgb horizon:
Hue—10YR to 5Y or N
Value—4 to 6
Chroma—0 to 2
Texture—silty clay loam, silty clay, or clay loam
Reaction—strongly acid to neutral

2Cg horizon:
Hue—10YR to 5Y or N
Value—4 to 6
Chroma—0 to 2
Texture—silty clay loam, silty clay, or clay loam
Reaction—strongly acid to neutral

Williamstown Series

Taxonomic classification: Fine-loamy, mixed, active, mesic Aquic Hapludalfs

Typical Pedon

Williamstown silt loam, on a convex slope of 4 percent in a cultivated field; 1,030 feet west and 2,080 feet north of the southeast corner of section 23, T. 9 N., R. 8 E., Decatur County, Indiana; USGS Westport, Indiana, topographic quadrangle; lat. 39 degrees 12 minutes 37.085 seconds N. and long. 85 degrees 35 minutes 52.606 seconds W., UTM Zone 16, 621048 easting and 4341051 northing, NAD 83.

Ap—0 to 9 inches; 90 percent brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; 10 percent yellowish brown (10YR 5/4) clay loam subsoil material; moderate medium granular structure; friable; strongly acid; abrupt smooth boundary.

2Bt1—9 to 18 inches; yellowish brown (10YR 5/6) clay loam; moderate medium subangular blocky structure; firm; many distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; few medium prominent light brownish gray (10YR 6/2) iron depletions in the matrix; 1 percent rock fragments; very strongly acid; clear wavy boundary.

2Bt2—18 to 33 inches; yellowish brown (10YR 5/6) clay loam; moderate coarse subangular blocky structure; firm; many distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; common fine prominent black (10YR 2/1) manganese concretions; common medium prominent grayish brown (10YR 5/2) iron depletions in the matrix; 1 percent rock fragments; neutral; clear wavy boundary.

2BCt—33 to 37 inches; yellowish brown (10YR 5/6) loam; weak coarse subangular blocky structure; firm; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; 1 percent rock fragments; slightly effervescent; slightly alkaline; clear wavy boundary.

2Cd—37 to 80 inches; yellowish brown (10YR 5/4) loam; massive; very firm; common fine distinct gray (10YR 6/1) iron depletions in the matrix; 1 percent rock fragments; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the loess: 0 to 22 inches
Depth to the base of the argillic horizon: 20 to 40 inches
Depth to carbonates: 20 to 40 inches
Depth to densic contact: 20 to 40 inches
Particle-size control section: Averages 27 to 35 percent clay
Kind of rock fragments: Dominantly of limestone or crystalline lithology
Other features: Some pedons have a BE horizon, which has chroma of 4 to 6. Some pedons have a CBt or 2CBt horizon.

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—2 or 3
Texture—silt loam, clay loam, loam, sandy loam, or fine sandy loam
Reaction—strongly acid to neutral
Content of rock fragments—0 to 10 percent

A horizon (where present):
Thickness—less than 6 inches
Hue—10YR
Value—3
Chroma—1
Texture—silt loam, loam, or fine sandy loam
Reaction—strongly acid to neutral
Content of rock fragments—0 to 10 percent

Bt or 2Bt horizon:
Hue—10YR
Value—4 or 5
Chroma—3 to 6
Texture—silty clay loam or clay loam
Reaction—very strongly acid to neutral
Content of rock fragments—0 to 10 percent

BCt or 2BCt horizon:
Hue—10YR
Value—4 to 6
Chroma—3 to 6
Texture—loam; less commonly fine sandy loam
Content of clay—averages 15 to 27 percent
Reaction—neutral to moderately alkaline
Calcium carbonate equivalent—0 to 35 percent
Content of rock fragments—1 to 10 percent

Cd or 2Cd horizon:
Hue—10YR
Value—5 or 6
Chroma—3 or 4
Texture—loam; less commonly fine sandy loam
Content of clay—averages 10 to 25 percent
Reaction—slightly alkaline or moderately alkaline
Calcium carbonate equivalent—20 to 45 percent
Content of rock fragments—1 to 10 percent

Wirt Series

Taxonomic classification: Coarse-loamy, mixed, superactive, mesic Dystric Fluventic Eutrudepts

Typical Pedon

Wirt loam, in a nearly level area in a pasture; 50 feet south and 2,085 feet east of the northwest corner of section 24, T. 3 N., R. 8 E., Jefferson County, Indiana; USGS Kent, Indiana, topographic quadrangle; lat. 38 degrees 41 minutes 35.565 seconds N. and long. 85 degrees 34 minutes 56.876 seconds W., UTM Zone 16, 623277 easting and 4283675 northing, NAD 83.

Ap—0 to 8 inches; brown (10YR 4/3) loam, pale brown (10YR 6/3) dry; moderate medium granular structure, weak thin platy in the lower part; friable; many fine roots; neutral; clear smooth boundary.

Bw1—8 to 15 inches; brown (10YR 4/3) silt loam; common fine distinct light yellowish brown (10YR 6/4) mottles; weak medium subangular blocky structure; friable; common fine roots; few distinct dark brown (10YR 3/3) organic coatings on faces of peds; neutral; gradual smooth boundary.

Bw2—15 to 22 inches; dark yellowish brown (10YR 4/4) silt loam; moderate medium subangular blocky structure; friable; few fine roots; many distinct dark brown (10YR 3/3) organic coatings on faces of peds; neutral; gradual wavy boundary.

Bw3—22 to 38 inches; dark yellowish brown (10YR 4/6) loam; few fine distinct light yellowish brown (10YR 6/4) mottles; moderate medium subangular blocky structure; friable; many distinct dark brown (10YR 3/3) organic coatings on faces of peds; neutral; gradual wavy boundary.

C1—38 to 50 inches; dark yellowish brown (10YR 4/6) sandy loam; common fine distinct pale brown (10YR 6/3) mottles; massive; friable; 1 percent gravel; neutral; gradual wavy boundary.

C2—50 to 60 inches; dark yellowish brown (10YR 4/4) gravelly sandy loam; massive; friable; 25 percent gravel; neutral.

Range in Characteristics

Depth to the base of the cambic horizon: 24 to 48 inches

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—3 or 4
Texture—silt loam or loam
Reaction—moderately acid to neutral

A horizon (2 to 6 inches thick) (where present):
Hue—10YR
Value—2 to 4
Chroma—2 or 3
Texture—silt loam or loam
Reaction—moderately acid to neutral

Bw horizon:
Hue—10YR
Value—3 to 5
Chroma—3 to 6
Texture—silt loam, loam, fine sandy loam, sandy loam, or very fine sandy loam
Reaction—moderately acid to neutral
Content of rock fragments—0 to 14 percent gravel

C horizon or BC horizon (where present):
Hue—10YR
Value—3 to 5
Chroma—3 to 6
Texture—loam, fine sandy loam, or sandy loam; gravelly loam, gravelly fine sandy loam, gravelly sandy loam, or strata of loamy fine sand, loamy sand, gravelly loamy fine sand, or gravelly loamy sand below a depth of 40 inches
Reaction—moderately acid to neutral
Content of rock fragments—0 to 34 percent gravel

Xenia Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Aquic Hapludalfs

Typical Pedon

Xenia silt loam, on a slope of 3 percent in a cultivated field; 800 feet south and 2,400 feet east of the northwest corner of section 13, T. 14 N., R. 4 W., Putnam County, Indiana; USGS Green Castle, Indiana, topographic quadrangle; lat. 39 degrees 39 minutes 29.565 seconds N. and long. 86 degrees 48 minutes 16.928 seconds W., UTM Zone 16, 516753 easting and 4389844 northing, NAD 83.

Ap—0 to 10 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate medium granular structure; friable; many fine roots; many fine pores; slightly acid; abrupt smooth boundary.

Bt1—10 to 18 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine subangular blocky structure; friable; many fine roots; many fine pores; common

distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; strongly acid; clear wavy boundary.

Bt2—18 to 30 inches; yellowish brown (10YR 5/6) silty clay loam; moderate medium subangular blocky structure; firm; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; common medium prominent light brownish gray (10YR 6/2) iron depletions in the matrix; strongly acid; clear wavy boundary.

2Bt3—30 to 50 inches; yellowish brown (10YR 5/6) clay loam; moderate medium subangular blocky structure; firm; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; common medium prominent light brownish gray (10YR 6/2) iron depletions in the matrix; 3 percent rock fragments; neutral; clear wavy boundary.

2BCt—50 to 58 inches; yellowish brown (10YR 5/4) loam; weak medium subangular blocky structure; firm; few distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; few medium distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few medium distinct light brownish gray (10YR 6/2) iron depletions in the matrix; 3 percent rock fragments; slightly effervescent; moderately alkaline; clear wavy boundary.

2Cd1—58 to 72 inches; yellowish brown (10YR 5/4) loam; massive; very firm; few medium distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few medium distinct light brownish gray (10YR 6/2) iron depletions in the matrix; 3 percent rock fragments; strongly effervescent; moderately alkaline; clear wavy boundary.

2Cd2—72 to 80 inches; yellowish brown (10YR 5/4) loam; massive; very firm; few medium distinct light brownish gray (10YR 6/2) iron depletions in the matrix; 3 percent rock fragments; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the loess or other silty material: 22 to 40 inches
Depth to the base of the argillic horizon: 40 to 60 inches
Depth to carbonates: 40 to 60 inches
Depth to densic contact: 40 to 60 inches
Particle-size control section: Averages 27 to 35 percent clay and less than 15 percent fine sand or coarser
Other features: Some pedons have a BE horizon.

Ap horizon:
Hue—10YR
Value—4
Chroma—2 or 3; ranges to 4 in some pedons in eroded areas
Texture—silt loam
Reaction—moderately acid to neutral, depending on liming history

E horizon (where present):
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam
Reaction—strongly acid to neutral, depending on liming history

Bt horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—3 to 6
Texture—silty clay loam or silt loam
Content of clay—23 to 35 percent
Content of sand—5 to 20 percent

Reaction—very strongly acid to neutral in the upper part and very strongly acid to slightly acid in the lower part

2Bt horizon:
Hue—10YR or 2.5Y
Value—4 or 5
Chroma—3 to 6
Texture—loam or clay loam
Content of clay—24 to 35 percent
Content of sand—20 to 40 percent
Reaction—moderately acid to neutral
Content of rock fragments—2 to 10 percent gravel

2BCt or 2BC horizon:
Hue—10YR or 2.5Y
Value—4 or 5
Chroma—3 or 4
Texture—loam or clay loam
Content of clay—20 to 30 percent
Content of sand—25 to 50 percent
Reaction—neutral to moderately alkaline
Calcium carbonate equivalent—0 to 20 percent
Content of rock fragments—2 to 10 percent gravel

2Cd horizon:
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—3 or 4
Texture—loam or fine sandy loam
Content of clay—12 to 20 percent
Content of sand—20 to 60 percent
Content of rock fragments—2 to 10 percent gravel
Reaction—slightly alkaline or moderately alkaline
Calcium carbonate equivalent—15 to 40 percent

Zenas Series

Taxonomic classification: Fine-silty, mixed, active, mesic Typic Hapludalfs

Typical Pedon

Zenas silt loam (fig. 27), on a slope of 3 percent in a pasture; 1,172 feet west and 202 feet north of the southeast corner of section 3, T. 7 N., R. 7 E., Jennings County, Indiana; USGS North Vernon topographic quadrangle; lat. 39 degrees 4 minutes 20.674 seconds N. and long. 85 degrees 43 minutes 41.677 seconds W.; UTM Zone 16, 610013 easting and 4325576 northing, NAD 83.

Ap—0 to 9 inches; 90 percent brown (10YR 4/3) silt loam, light yellowish brown (10YR 6/4) dry, and 10 percent strong brown (7.5YR 5/6) silt loam, brown (7.5YR 5/4) dry; weak fine and medium subangular blocky structure parting to moderate very fine subangular blocky; very friable; many very fine and fine and common medium roots throughout; neutral; clear smooth boundary.

Bt1—9 to 15 inches; strong brown (7.5YR 5/6) silty clay loam; moderate very fine and fine subangular blocky structure; friable; many very fine and fine roots throughout; many distinct strong brown (7.5YR 4/6) clay films on faces of peds; common fine and medium cylindrical brown (10YR 4/3) wormcasts between peds; neutral; clear wavy boundary.

Figure 27.—Profile of a Zenas soil. Depth is marked in inches.

Bt2—15 to 26 inches; strong brown (7.5YR 5/6) silty clay loam; moderate fine and medium subangular blocky structure; friable; many very fine and fine roots throughout; many distinct reddish brown (5YR 4/4) clay films on faces of peds; few black (10YR 2/1) iron-manganese concretions; few fine and medium cylindrical brown (10YR 5/3) wormcasts between peds; very strongly acid; gradual wavy boundary.

2Bt3—26 to 32 inches; yellowish red (5YR 4/6) silty clay; moderate fine and medium subangular blocky structure; firm; common very fine and fine roots throughout; many distinct reddish brown (5YR 4/4) clay films on faces of peds; few fine prominent black (10YR 2/1) mangans on faces of peds; few fine black (10YR 2/1) iron-manganese concretions; very strongly acid; clear wavy boundary.

2Bt4—32 to 42 inches; yellowish red (5YR 4/6) silty clay; moderate very fine and fine angular blocky structure; firm; common very fine and fine roots; many distinct reddish brown (5YR 4/4) clay films on faces of peds; few black (10YR 2/1) iron-manganese concretions; 3 percent chert gravel; strongly acid; clear wavy boundary.

2Bt5—42 to 48 inches; 60 percent dark reddish brown (5YR 3/2) clay and 40 percent brown (7.5YR 4/4) silty clay; weak fine and medium subangular blocky structure;

firm; many distinct very dark gray (5YR 3/1) and dark reddish gray (5YR 4/2) clay films on faces of peds; 10 percent limestone channers; neutral; abrupt wavy boundary.

2R—48 to 60 inches; indurated limestone bedrock.

Range in Characteristics

Thickness of the loess: 22 to 40 inches
Depth to the base of the argillic horizon: 40 to 60 inches
Depth to lithic contact: 40 to 60 inches

Ap horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—2 to 4
Texture—silt loam
Reaction—neutral to very strongly acid

Bt horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 to 6
Texture—silt loam or silty clay loam
Content of clay—22 to 38 percent
Content of sand—1 to 15 percent
Reaction—strongly acid to very strongly acid; ranges to neutral in the upper part in areas that have been limed

2Bt horizon:
Hue—5YR or 7.5YR
Value—3 to 5
Chroma—2 to 6
Texture—commonly clay or silty clay; less commonly silty clay loam, gravelly silty clay loam, or channery silty clay loam
Content of clay—35 to 75 percent
Content of sand—1 to 15 percent
Reaction—strongly acid or very strongly acid; ranges to neutral in the lower part
Content of rock fragments—0 to 20 percent chert gravel or limestone channers

Formation of the Soils

This section relates the major factors of soil formation to the soils in Jennings County. The processes of soil formation also are described.

Factors of Soil Formation

Soils form through processes acting upon deposits of plant and geologic materials. The characteristics of a soil at any given point are determined by five major factors: (1) time—the period during which the soil-forming factors have acted upon the parent material; (2) parent material—the physical and mineralogical composition of the plant and geologic materials; (3) topography—the general configuration of the land's surface; (4) climate—the temperature and moisture conditions under which the soils formed; and (5) organisms—the plant and animal life on and in the soil (Jenny, 1941).

Parent material greatly affects the development of the soil. Climate and organisms are active factors of soil formation. They act upon the parent material through the weathering process and slowly change it into a natural body with genetically related horizons. The effects of climate and organisms are conditioned by the topography of the area. Finally, time is needed for the transformation of the parent material into a soil exhibiting horizonation.

The factors of soil formation are so closely interrelated in their effects on the soil and on each other that few generalizations can be made regarding the effects of any one factor unless conditions are specified for the others.

Time

Generally, a long time is needed for the development of distinct soil horizons. The length of time that parent material has been in place commonly reflects the degree of profile development.

The soils in Jennings County range from mature to immature. Avonburg, Blocher, Cincinnati, Cobbsfork, Nabb, and other soils that formed in loess and glacial till and Ryker, Muscatatuck, Zenas, Deputy, and Scottsburg soils that formed in loess over material weathered from bedrock have been exposed to the soil-forming factors long enough for the development of distinct horizons (fig. 28). Birds, Bonnie, Stonelick, Wakeland, and other soils that formed in recent alluvium, however, have not been in place long enough for this kind of profile development.

Parent Material and Geology

Dr. Stanley M. Totten, professor (ret.) of geology, Hanover College, helped prepare this section.

The soils in Jennings County formed in a variety of parent materials associated with many landforms. Generally, the soils formed in unconsolidated gravel, sand, silt, and clay deposited by glaciers, streams, and wind, or they formed in material weathered from shale, siltstone, or limestone bedrock. The unconsolidated surficial materials range from 0 to more than 30 feet in thickness. Thus, bedrock is sufficiently close to the surface to exert influence on soil formation over extensive areas of the county. In

Figure 28.—Blocher and Cincinnati soils on the Illinoian till plain. The Ryker and Muscatatuck soils on a lower lying bench in the background are underlain with limestone.

many soils the upper part of the profile has formed in a different kind of material than the lower part, and many soils have formed in two or three kinds of parent materials.

The bedrock exposed in Jennings County belongs to the Silurian and Devonian Systems of the Paleozoic Era and ranges in age from about 350 to 450 million years. These rocks consist of shale and limestone, which originated as fine-grained sediments in warm, shallow marine waters that covered much of the North American continent. All bedrock units dip gently westward away from the Cincinnati Arch and toward the Illinois Basin at 20 to 25 feet per mile. As a result, rock units become successively younger in a westward direction in Jennings County.

The Muscatatuck Plateau encompasses the entire county. Elevations in Jennings County range from a low of about 527 feet (at the Muscatatuck River where it exits the county to the southwest) to a high of about 896 feet (in the northeast corner near the county line approximately 5.5 miles north of Zenas).

Silurian and Devonian rocks occur in a north-south-trending belt in the central part of the county.

The Laurel and Louisville Formations of the Silurian System and the Geneva, Jeffersonville, and North Vernon Formations of the Devonian System are similar to each other. They consist of varying amounts of dolomite (argillaceous limestone). They underlie karst and rolling uplands in the east-central and southeastern parts of

the county. Thin loess and glacial drift of variable thickness overlie these limestone formations in the eastern part of the county. Ryker and Grayford soils formed in these materials.

Where the glacial drift and black shale bedrock have been eroded away, Zenas and Caneyville soils formed in thin loess and the underlying reddish clayey residuum derived from limestone (fig. 29). These soils are associated with the Silurian and Devonian limestone of Jennings County. Where sinkholes are predominant, these soils are separated and named as “karst” phases.

The New Albany shale, of the Devonian System, consists of brownish black shale that contains much carbonaceous matter. This shale occurs in the central part of the county. It consists of five closely related members. From older to younger, these are the Blocher, Selmier, Morgan Trail, Camp Run, and Clegg Creek members, which differ slightly in color and weathering characteristics (Lineback, 1970). The Blocher, Morgan Trail, and Clegg Creek members are dominated by brownish black, hard, brittle shale that contains much carbonaceous matter. Trappist, Rohan, and Jessietown soils formed in residuum derived from these members. The Selmier and Camp Run members consist of weakly resistant greenish gray and brownish black shale and mudstone. Deputy soils formed in thin loess-covered clayey residuum derived from these members (fig. 30). Scottsburg and Whitcomb soils occur in places where most of the residuum has been removed by the glaciers, and these soils formed in a thin mantle of loess, pedisediment, and a thin layer of residuum derived from these members. Jennings soils formed in places where residuum derived from all the members is covered with a thin mantle of loess and till.

A period of broad uplift, erosion, and weathering lasting about 340 million years followed the deposition of the shale, siltstone, and limestone bedrock.

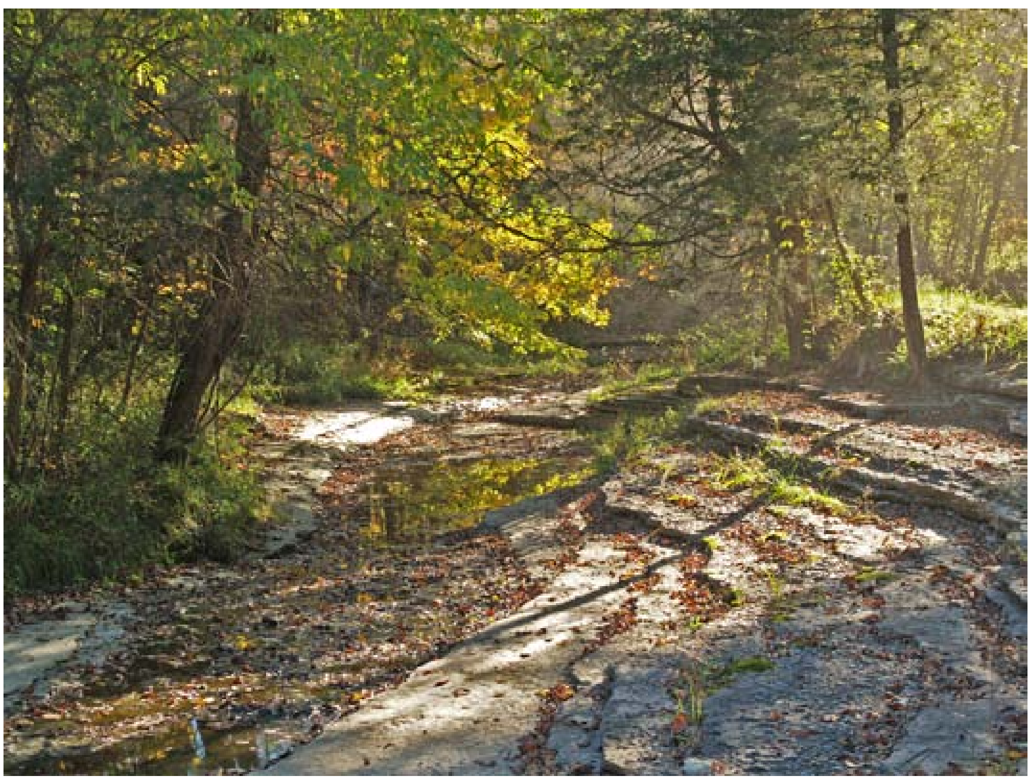

Figure 29.—An outcrop of Silurian limestone, which underlies the Zenas and Caneyville soils in Jennings County.

Figure 30.—A field of tobacco in an area of Zenas soils, which are underlain with limestone. The Deputy soils on the hills in the background are underlain with black shale.

Jennings County was covered by continental ice sheets at least twice and probably several times during the Illinoian and pre-Illinoian glacial stages. These large ice sheets modified the preglacial topography of Jennings County only slightly, but the deposits left behind greatly influenced subsequent soil formation.

From about 150,000 to 130,000 years ago, Indiana was invaded by the Illinoian continental ice sheet, which covered much of Jennings County. The ice sheet deposited a thin layer of till as much as 30 feet thick. This till is thin and discontinuous and is absent on the steeper hillslopes where postglacial sheetwash and gully erosion have removed the weak unconsolidated materials.

During and immediately after the retreat phase of Illinoian ice, “gritty loess” (USDA/SCS, 1990), a silty sediment picked up by the wind from meltwater flood plains, was deposited in Jennings County.

Avonburg, Cincinnati, Blocher, Nabb, and Cobbsfork soils formed in materials consisting of, from the surface downward, silty loess, “gritty loess,” and Illinoian till. On the strongly sloping to steep slopes, Bonnell and Hickory soils formed in less than 20 inches of loess and the Illinoian till (fig. 31).

The oldest glacial drift in the county consists of red outwash, the product of a pre-Illinoian ice advance that occurred at least 250,000 years ago, perhaps considerably earlier. This pre-Illinoian deposit consists primarily of stratified red sand and gravel in the form of short, low linear ridges concentrated in the north-central part of the county. These ridges are interpreted as crevasse fillings that formed when meltwaters washed debris from near the terminus of a stagnant ice sheet into depressions in the ice. After retreat of the pre-Illinoian ice sheet, a period of warmer climate similar to that of the present occurred, during which a paleosol developed in the red drift. Medora soils formed in 2 to 3 feet of silty loess and in the underlying paleosol that formed in the red outwash.

The period from 125,000 to 70,000 years before present was an interglacial period similar to the present. This period is characterized by weathering, erosion, and soil formation.

Ice sheets formed about 70,000 years before present in Canada, but they did not reach Indiana until about 24,000 years ago. Melting of the ice sheet caused large quantities of meltwater to be discharged into the White River valley and its tributaries, depositing sand and gravel outwash. Elkinsville and Millstone soils formed in loamy sediments and are typically underlain with sand and gravel at a depth of more than 6 feet.

This outwash dammed up tributaries to form temporary lakes in the tributaries in the Muscatatuck River and the Vernon Fork of the Muscatatuck River in the southwestern part of the county. The lake level rose to an elevation of at least 620 feet, as evidenced by lake sediments at this elevation and below. Sediments consisting of stratified silts, sands, and clayey material, as much as 30 feet thick, were deposited in the lake. Dubois, Peoga, Haubstadt, and Otwell soils formed in lacustrine (lake) sediments and the overlying 1.5 feet or less of silty loess. These lacustrine sediments are dominantly clayey in the upper part and can range from sandy to clayey in the lower part (Thornbury, 1950).

Melting of Wisconsinan ice between about 20,000 and 15,000 years ago in central Indiana resulted in the deposition of 2 to 3 feet of silty loess in Jennings County. As was the situation with the older “gritty loess” of probable Illinoian age, much of the silty loess later was reworked or removed by slope processes, lake water, and streams. Weathering, sheetwash, gullying, and stream action have continued to modify parts of the Jennings County landscape up to the present.

Several cycles of stream erosion involving lateral planation of valleys are evident in Jennings County. Modification of all preglacial valleys in the county occurred during and after each glacial stage; some valleys were partially filled with till, alluvium, or lake sediment. Stream terraces, the flat remnants of former flood plains, occur in places along the margins of most valleys at elevations ranging from 6 to 20 feet above the modern flood plain. The stream terraces along Vernon Fork, Sand Creek, and Graham Creek typically are 6 to 20 feet above their modern flood plains. These terraces are underlain by silty or loamy, acid alluvium and are capped by 2 to 3 feet of silty loess

Figure 31.—Bonnell, Blocher, and Hickory soils on a backslope on the Illinoian till plain. Pekin soils are on the stream terrace in the background.

of late Wisconsinan age. Bartle, Pekin, and Peoga soils formed in these loess-capped alluvial materials (fig. 32).

Alluvium was deposited in the flood plains during, between, and after the periods of glaciation. The composition of the alluvium on the modern flood plains in Jennings County varies according to the source of the alluvium, time of deposition, proximity in the valley, and overflow velocity of the water carrying the alluvial sediment.

Most of the alluvial sediment deposited on the flood plains in the county is silty or loamy and ranges from neutral to very strongly acid. Bonnie, Cuba, Steff, and Stendal soils formed in acid, silty sediment and are mainly in the valleys of the Vernon Fork and Muscatatuck Rivers. Haymond, Wakeland, Wilbur, and Wirt soils formed in moderately acid to neutral, silty and loamy sediments in the same stream valleys and are typically closer to the stream channel.

Topography

Topography, or relief, has markedly influenced the soils in Jennings County through its effect on natural drainage, erosion, runoff, plant cover, and soil temperature. Some soils formed in the same kind of parent material but differ mainly in drainage characteristics because of relief.

Runoff is most rapid on the steepest slopes. Many low, depressional areas are temporarily ponded. The greater the runoff rate, the greater the hazard of erosion.

Through its effect on aeration in the soil, drainage determines the major color of a soil. Water and air move freely through most well drained soils and slowly through very poorly drained soils. In Ryker, Elkinsville, and other soils that are well aerated, the iron and aluminum compounds that give most soils their color are reddish or brownish and are oxidized. Peoga, Cobbsfork, and other poorly aerated soils that are saturated for long periods commonly are dominantly gray and have reddish and brownish masses

Figure 32.—Bartle and Pekin soils are on the stream terrace in the middle ground. Stendal soils are on the lower lying flood plain in the foreground, and Blocher and Cincinnati soils are on the higher lying Illinoian till plain in the background.

of iron accumulation. The soils are gray because the iron compounds are in a reduced state or have been removed from the profile.

Climate

Climate largely determines the kind of plant and animal life on and in the soil. It also determines the amount of water available for the weathering of minerals and the translocation of soil material. Temperature determines the rate of chemical reactions in the soil. These effects tend to be uniform in relatively small areas, such as those the size of a county.

The climate in Jennings County is generally cool and moist in winter and hot and humid in summer. It is presumably similar to the one that prevailed when the soils formed. The climate is nearly uniform throughout the county, and thus differences among the soils in the county are not the result of varied climatic conditions.

Organisms

Plants have been the principal organisms influencing the soils in Jennings County, but bacteria, fungi, earthworms, and human activities also have been important. The chief contribution of plant and animal life is the addition of organic matter and nitrogen to the soil. The kind of organic material in and on the soil depends on the kind of native plants that grew on the soil. The remains of these plants accumulated in the surface layer, decayed, and eventually became humus. The roots of the plants provided channels for the downward movement of water and air through the soil, and they added organic matter as they decayed. Bacteria in the soil help to break down the organic matter into plant nutrients.

The native vegetation in Jennings County was mainly deciduous, mixed hardwoods. Differences in natural soil drainage and minor variations in the parent material affected the composition of the forest species. Common trees on well drained soils, such as Hickory and Bonnell soils, were yellow-poplar, white oak, red oak, hickory, elm, and sugar maple. Wet soils, such as Cobbsfork and Peoga soils, support primarily sweetgum, pin oak, beech, and soft maple.

Processes of Soil Formation

Several processes have been involved in the formation of the soils in Jennings County. These processes are the accumulation of organic matter; the dissolution, transfer, and removal of calcium carbonates and bases; the liberation and translocation of silicate clay minerals; and the reduction and transfer of iron. In most of the soils, more than one of these processes have helped to differentiate soil horizons.

Some organic matter has accumulated in the surface layer of all of the soils in the county. The organic matter content of most of the soils is low or moderately low.

Carbonates and bases have been leached from the upper horizons of most of the soils in the county. Leaching probably preceded the translocation of silicate clay minerals. Almost all of the carbonates and some of the bases have been leached from the A and B horizons of the well drained soils. Even in the wettest soils, some leaching is indicated by the absence of carbonates and by an acid soil reaction. Leaching of wet soils is slow because of a seasonal high water table or the slow movement of water through the profile.

Clay accumulates in pores and other voids and forms films on the surfaces along which water moves. The leaching of bases and the translocation of silicate clays are among the more important processes affecting horizon differentiation in the soils. Blocher soils are examples of soils in which translocated silicate clays have accumulated in the Bt horizon in the form of clay films. Gleying, or the reduction and

transfer of iron, has occurred in all of the very poorly drained to somewhat poorly drained soils in the county. In these naturally wet soils, this process has had a significant effect on horizon differentiation. A gray subsoil indicates the reduction of iron oxides. This reduction is commonly accompanied by some transfer of the iron from the upper horizons to the lower ones or completely out of the profile. The redoximorphic concentrations in some horizons indicate the segregation of iron. Cobbsfork soils are examples of this process.

References

Adams, F. 1984. Soil acidity and liming. American Society of Agronomy, Agronomy Monograph 12, 2nd edition.

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Gray, Henry H. 2001. Map of Indiana showing physiographic divisions. Miscellaneous Map 69, Modified from Gray, H.H. 2000. Physiographic divisions of Indiana. Indiana Geological Survey Special Report 61, Plate 1. Digital compilation by Kimberly H. Sowder.

Hurt, G.W., and L.M. Vasilas, editors. 2010. Field indicators of hydric soils in the United States. Version 7.0.

Jenny, Hans. 1941 (reprinted 1994). Factors of soil formation.

Khasawneh, F.E., E.C. Sample, and E.J. Kamprath, editors. 1980. The role of phosphorus in agriculture. American Society of Agronomy.

Lineback, Jerry A. 1970. Stratigraphy of the New Albany Shale in Indiana. State of Indiana, Department of Natural Resources. Geology Survey Bulletin 44.

Munson, Robert D., editor. 1985. Potassium in agriculture. American Society of Agronomy.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Nickell, Allan K. 1976. Soil survey of Jennings County, Indiana. U.S. Department of Agriculture, Soil Conservation Service.

Schoeneberger, P.J., D.A. Wysocki, E.C. Benham, and W.D. Broderson, editors. 2002. Field book for describing and sampling soils. Version 2.0. U.S. Department of Agriculture, Natural Resources Conservation Service.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://soils.usda.gov/technical/

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Stevenson, F.J., editor. 1982. Nitrogen in agricultural soils. American Society of Agronomy, Agronomy Monograph 22.

Thornbury, William D. 1950. Glacial sluiceways and lacustrine plains of southern Indiana. 2nd edition. Indiana Department of Conservation, Division of Geology.

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture. 1961. Land capability classification. Soil Conservation Service. U.S. Department of Agriculture Handbook 210.

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://soils.usda.gov/technical/

United States Department of Agriculture, Natural Resources Conservation Service. 1996. Soil survey laboratory methods manual. Soil Survey Investigations Report 42.

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://soils.usda.gov/

United States Department of Agriculture, Soil Conservation Service. 1990. A reevaluation of the “Illinoian till plain” and the origin of the gritty loess substratum of Avonburg and Clermont soils in southeastern Indiana. Soil Survey Investigations Report 41.

Walsh, L.M., and J.D. Beaton, editors. 1973. Soil testing and plant analysis. Soil Science Society of America.

Glossary

Many of the terms relating to landforms, geology, and geomorphology are defined in more detail in the “National Soil Survey Handbook” (available in local offices of the Natural Resources Conservation Service or on the Internet).

Ablation till. Loose, relatively permeable earthy material deposited during the downwasting of nearly static glacial ice, either contained within or accumulated on the surface of the glacier.

Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alluvium. Unconsolidated material, such as gravel, sand, silt, clay, and various mixtures of these, deposited on land by running water.

Alpha,alpha-dipyridyl. A compound that when dissolved in ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction implies reducing conditions and the likely presence of redoximorphic features.

Animal unit month (AUM). The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Aquic conditions. Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.

Aspect. The direction toward which a slope faces. Also called slope aspect.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low	0 to 3
Low	3 to 6
Moderate	6 to 9
High	9 to 12
Very high	more than 12

Backslope. The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.

Backswamp. A flood-plain landform. Extensive, marshy or swampy, depressed areas of flood plains between natural levees and valley sides or terraces.

Base saturation. The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Base slope (geomorphology). A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral

shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).

Bedding plane. A planar or nearly planar bedding surface that visibly separates each successive layer of stratified sediment or rock (of the same or different lithology) from the preceding or following layer; a plane of deposition. It commonly marks a change in the circumstances of deposition and may show a parting, a color difference, a change in particle size, or various combinations of these. The term is commonly applied to any bedding surface, even one that is conspicuously bent or deformed by folding.

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Bedrock-controlled topography. A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.

Bench terrace. A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.

Bisequum. Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.

Blowout. A saucer-, cup-, or trough-shaped depression formed by wind erosion on a preexisting dune or other sand deposit, especially in an area of shifting sand or loose soil or where protective vegetation is disturbed or destroyed; the adjoining accumulation of sand derived from the depression, where recognizable, is commonly included. Blowouts are commonly small.

Bottom land. An informal term loosely applied to various portions of a flood plain.

Boulders. Rock fragments larger than 2 feet (60 centimeters) in diameter.

Brush management. Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.

Calcareous soil. A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

Canopy. The leafy crown of trees or shrubs. (See Crown.)

Capillary water. Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

Catena. A sequence, or “chain,” of soils on a landscape that formed in similar kinds of parent material and under similar climatic conditions but that have different characteristics as a result of differences in relief and drainage.

Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

Catsteps. See Terracettes.

Channery soil material. Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.

Chemical treatment. Control of unwanted vegetation through the use of chemicals.

Chiseling. Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay depletions. See Redoximorphic features.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Climax plant community. The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

Coarse textured soil. Sand or loamy sand.

Cobble (or cobblestone). A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

Cobbly soil material. Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

COLE (coefficient of linear extensibility). See Linear extensibility.

Colluvium. Unconsolidated, unsorted earth material being transported or deposited on side slopes and/or at the base of slopes by mass movement (e.g., direct gravitational action) and by local, unconcentrated runoff.

Complex slope. Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions. See Redoximorphic features.

Conservation cropping system. Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the “Soil Survey Manual.”

Contour stripcropping. Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Coprogenous earth (sedimentary peat). A type of limnic layer composed predominantly of fecal material derived from aquatic animals.

Corrosion (geomorphology). A process of erosion whereby rocks and soil are removed or worn away by natural chemical processes, especially by the solvent action of running water, but also by other reactions, such as hydrolysis, hydration, carbonation, and oxidation.

Corrosion (soil survey interpretations). Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Crop residue management. Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Cropping system. Growing crops according to a planned system of rotation and management practices.

Cross-slope farming. Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.

Crown. The upper part of a tree or shrub, including the living branches and their foliage.

Culmination of the mean annual increment (CMAI). The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

Decreasers. The most heavily grazed climax range plants. Because they are the most palatable, they are the first to be destroyed by overgrazing.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

Delta. A body of alluvium having a surface that is fan shaped and nearly flat; deposited at or near the mouth of a river or stream where it enters a body of relatively quiet water, generally a sea or lake.

Dense layer (in tables). A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

Depression. Any relatively sunken part of the earth's surface; especially a low-lying area surrounded by higher ground. A closed depression has no natural outlet for surface drainage. An open depression has a natural outlet for surface drainage.

Depth, soil. Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Dip slope. A slope of the land surface, roughly determined by and approximately conforming to the dip of the underlying bedrock.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained,* and *very poorly drained*. These classes are defined in the "Soil Survey Manual."

Drainage, surface. Runoff, or surface flow of water, from an area.

Drainageway. A general term for a course or channel along which water moves in draining an area. A term restricted to relatively small, linear depressions that at some time move concentrated water and either do not have a defined channel or have only a small defined channel.

Drift. A general term applied to all mineral material (clay, silt, sand, gravel, and boulders) transported by a glacier and deposited directly by or from the ice or transported by running water emanating from a glacier. Drift includes unstratified

material (till) that forms moraines and stratified deposits that form outwash plains, eskers, kames, varves, and glaciofluvial sediments. The term is generally applied to Pleistocene glacial deposits in areas that no longer contain glaciers.

Drumlin. A low, smooth, elongated oval hill, mound, or ridge of compact till that has a core of bedrock or drift. It commonly has a blunt nose facing the direction from which the ice approached and a gentler slope tapering in the other direction. The longer axis is parallel to the general direction of glacier flow. Drumlins are products of streamline (laminar) flow of glaciers, which molded the subglacial floor through a combination of erosion and deposition.

Duff. A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

Earthy fill. See Mine spoil.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Endosaturation. A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Eolian deposit. Sand-, silt-, or clay-sized clastic material transported and deposited primarily by wind, commonly in the form of a dune or a sheet of sand or loess.

Ephemeral stream. A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

Episaturation. A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Erosion pavement. A surficial lag concentration or layer of gravel and other rock fragments that remains on the soil surface after sheet or rill erosion or wind has removed the finer soil particles and that tends to protect the underlying soil from further erosion.

Erosion surface. A land surface shaped by the action of erosion, especially by running water.

Escarpment. A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Most commonly applied to cliffs produced by differential erosion. Synonym: scarp.

Esker. A long, narrow, sinuous, steep-sided ridge of stratified sand and gravel deposited as the bed of a stream flowing in an ice tunnel within or below the ice (subglacial) or between ice walls on top of the ice of a wasting glacier and left behind as high ground when the ice melted. Eskers range in length from less than a kilometer to more than 160 kilometers and in height from 3 to 30 meters.

Fan terrace. A relict alluvial fan, no longer a site of active deposition, incised by younger and lower alluvial surfaces.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fibric soil material (peat). The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity*.

Fine textured soil. Sandy clay, silty clay, or clay.

Firebreak. An area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.

First bottom. An obsolete, informal term loosely applied to the lowest flood-plain steps that are subject to regular flooding.

Flaggy soil material. Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

Flagstone. A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

Flood plain. The nearly level plain that borders a stream and is subject to flooding unless protected artificially.

Flood-plain landforms. A variety of constructional and erosional features produced by stream channel migration and flooding. Examples include backswamps, flood-plain splays, meanders, meander belts, meander scrolls, oxbow lakes, and natural levees.

Flood-plain splay. A fan-shaped deposit or other outspread deposit formed where an overloaded stream breaks through a levee (natural or artificial) and deposits its material (commonly coarse grained) on the flood plain.

Flood-plain step. An essentially flat, terrace-like alluvial surface within a valley that is frequently covered by floodwater from the present stream; any approximately horizontal surface still actively modified by fluvial scour and/or deposition. May occur individually or as a series of steps.

Fluvial. Of or pertaining to rivers or streams; produced by stream or river action.

Footslope. The concave surface at the base of a hillslope. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Forb. Any herbaceous plant not a grass or a sedge.

Forest cover. All trees and other woody plants (underbrush) covering the ground in a forest.

Forest type. A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

Fragipan. A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Geomorphology. The science that treats the general configuration of the earth's surface; specifically the study of the classification, description, nature, origin, and development of landforms and their relationships to underlying structures and the history of geologic changes as recorded by these surface features. The term is especially applied to the genetic interpretation of landforms.

Glaciofluvial deposits. Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and occur in the form of outwash plains, valley trains, deltas, kames, eskers, and kame terraces.

Glaciolacustrine deposits. Material ranging from fine clay to sand derived from glaciers and deposited in glacial lakes mainly by glacial meltwater. Many deposits are bedded or laminated.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

Graded stripcropping. Growing crops in strips that grade toward a protected waterway.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel. Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravelly soil material. Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

Green manure crop (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground water. Water filling all the unblocked pores of the material below the water table.

Gully. A small channel with steep sides caused by erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hard bedrock. Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

Hard to reclaim (in tables). Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Head slope (geomorphology). A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

Hemic soil material (mucky peat). Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

Herbaceous peat. An accumulation of organic material, decomposed to some degree, that is predominantly the remains of sedges, reeds, cattails, and other herbaceous plants.

High-residue crops. Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Hill. A generic term for an elevated area of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a

well defined outline. Slopes are generally more than 15 percent. The distinction between a hill and a mountain is arbitrary and may depend on local usage.

Hillslope. A generic term for the steeper part of a hill between its summit and the drainage line, valley flat, or depression floor at the base of a hill.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.

L horizon.—A layer of organic and mineral limnic materials, including coprogenous earth (sedimentary peat), diatomaceous earth, and marl.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Ice-walled lake plain. A relict surface marking the floor of an extinct lake basin that was formed on solid ground and surrounded by stagnant ice in a stable or unstable superglacial environment on stagnation moraines. As the ice melted, the lake plain became perched above the adjacent landscape. The lake plain is well sorted, generally fine textured, stratified deposits.

Igneous rock. Rock that was formed by cooling and solidification of magma and that has not been changed appreciably by weathering since its formation. Major varieties include plutonic and volcanic rock (e.g., andesite, basalt, and granite).

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Increasers. Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasers commonly are the shorter plants and the less palatable to livestock.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

Interfluve. A landform composed of the relatively undissected upland or ridge between two adjacent valleys containing streams flowing in the same general direction. An elevated area between two drainageways that sheds water to those drainageways.

Interfluve (geomorphology). A geomorphic component of hills consisting of the uppermost, comparatively level or gently sloping area of a hill; shoulders of backwearing hillslopes can narrow the upland or can merge, resulting in a strongly convex shape.

Intermittent stream. A stream, or reach of a stream, that does not flow year-round but that is commonly dry for 3 or more months out of 12 and whose channel is generally below the local water table. It flows only during wet periods or when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Invaders. On range, plants that encroach into an area and grow after the climax vegetation has been reduced by grazing. Generally, plants invade following disturbance of the surface.

Iron depletions. See Redoximorphic features.

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation are:

Basin.—Water is applied rapidly to nearly level plains surrounded by levees or dikes.

Border.—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

Controlled flooding.—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Corrugation.—Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

Drip (or trickle).—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Furrow.—Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

Sprinkler.—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Subirrigation.—Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

Wild flooding.—Water, released at high points, is allowed to flow onto an area without controlled distribution.

Kame. A low mound, knob, hummock, or short irregular ridge composed of stratified sand and gravel deposited by a subglacial stream as a fan or delta at the margin of a melting glacier; by a supraglacial stream in a low place or hole on the surface of the glacier; or as a ponded deposit on the surface or at the margin of stagnant ice.

Karst (topography). A kind of topography that formed in limestone, gypsum, or other soluble rocks by dissolution and that is characterized by closed depressions, sinkholes, caves, and underground drainage.

Knoll. A small, low, rounded hill rising above adjacent landforms.

Ksat. Saturated hydraulic conductivity. (See Permeability.)

Lacustrine deposit. Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Lake bed. The bottom of a lake; a lake basin.

Lake plain. A nearly level surface marking the floor of an extinct lake filled by well sorted, generally fine textured, stratified deposits, commonly containing varves.

Lake terrace. A narrow shelf, partly cut and partly built, produced along a lakeshore in front of a scarp line of low cliffs and later exposed when the water level falls.

Lamella. A thin (commonly less than 1 cm thick), discontinuous or continuous, generally horizontal layer of fine material (especially clay and iron oxides) that has been pedogenically concentrated (illuviated within a coarser textured eluviated layer several centimeters to several decimeters thick).

Landslide. A general, encompassing term for most types of mass movement landforms and processes involving the downslope transport and outward deposition of soil and rock materials caused by gravitational forces; the movement may or may not involve saturated materials. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly. (See Slippage.)

Large stones (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Leaching. The removal of soluble material from soil or other material by percolating water.

Linear extensibility. Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33-kPa or 10-kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Loess. Material transported and deposited by wind and consisting dominantly of silt-sized particles.

Low strength. The soil is not strong enough to support loads.

Low-residue crops. Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Marl. An earthy, unconsolidated deposit consisting chiefly of calcium carbonate mixed with clay in approximately equal proportions; formed primarily under freshwater lacustrine conditions but also formed in more saline environments.

Mass movement. A generic term for the dislodgment and downslope transport of soil and rock material as a unit under direct gravitational stress.

Masses. See Redoximorphic features.

Meander belt. The zone within which migration of a meandering channel occurs; the flood-plain area included between two imaginary lines drawn tangential to the outer bends of active channel loops.

Meander scar. A crescent-shaped, concave or linear mark on the face of a bluff or valley wall, produced by the lateral erosion of a meandering stream that impinged upon and undercut the bluff.

Meander scroll. One of a series of long, parallel, close-fitting, crescent-shaped ridges and troughs formed along the inner bank of a stream meander as the channel migrated laterally down-valley and toward the outer bank.

Mechanical treatment. Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Metamorphic rock. Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement at depth in the earth's crust. Nearly all such rocks are crystalline.

Mine spoil. An accumulation of displaced earthy material, rock, or other waste material removed during mining or excavation. Also called earthy fill.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area. A kind of map unit that has little or no natural soil and supports little or no vegetation.

Moderately coarse textured soil. Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon. A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

Moraine. In terms of glacial geology, a mound, ridge, or other topographically distinct accumulation of unsorted, unstratified drift, predominantly till, deposited primarily by the direct action of glacial ice in a variety of landforms. Also, a general term for a landform composed mainly of till (except for kame moraines, which are composed mainly of stratified outwash) that has been deposited by a glacier. Some types of moraines are disintegration, end, ground, kame, lateral, recessional, and terminal.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium,* from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse,* more than 15 millimeters (about 0.6 inch).

Muck. Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

Mucky peat. Unconsolidated soil material consisting primarily of organic material that is in an intermediate stage of decomposition such that a significant part of the material can be recognized and a significant part of the material cannot be recognized.

Mudstone. A blocky or massive, fine grained sedimentary rock in which the proportions of clay and silt are approximately equal. Also, a general term for such material as clay, silt, claystone, siltstone, shale, and argillite and that should be used only when the amounts of clay and silt are not known or cannot be precisely identified.

Munsell notation. A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Natric horizon. A special kind of argillic horizon that contains enough exchangeable sodium to have an adverse effect on the physical condition of the subsoil.

Neutral soil. A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nodules. See Redoximorphic features.

Nose slope (geomorphology). A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent. Nose slopes consist dominantly of colluvium and slope-wash sediments (for example, slope alluvium).

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter. Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low	less than 0.5 percent
Low	0.5 to 1.0 percent
Moderately low	1.0 to 2.0 percent
Moderate	2.0 to 4.0 percent
High	4.0 to 8.0 percent
Very high	more than 8.0 percent

Outwash. Stratified and sorted sediments (chiefly sand and gravel) removed or “washed out” from a glacier by meltwater streams and deposited in front of or beyond the end moraine or the margin of a glacier. The coarser material is deposited nearer to the ice.

Outwash plain. An extensive lowland area of coarse textured glaciofluvial material. An outwash plain is commonly smooth; where pitted, it generally is low in relief.

Paleosol. A soil that formed on a landscape in the past with distinct morphological features resulting from a soil-forming environment that no longer exists at the site. The former pedogenic process was either altered because of external environmental change or interrupted by burial. A paleosol (or component horizon) may be classed as relict if it persisted in a land-surface position without major alteration of morphology by processes of the pedogenic environment. An exhumed paleosol is one that formerly was buried and has been re-exposed by erosion of the covering mantle. Most paleosols have been affected by subsequent modification of diagnostic horizon morphologies and profile truncation.

Paleoterrace. An erosional remnant of a terrace that retains the surface form and alluvial deposits of its origin but was not emplaced by, and commonly does not grade to, a present-day stream or drainage network.

Pan. A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan, fragipan, claypan, plowpan,* and *traffic pan*.

Pararock fragments. Fragments of paralithic materials, having a diameter of 2 millimeters or more; for example, parachanners and paraflagstones.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Peat. Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedisediment. A layer of sediment, eroded from the shoulder and backslope of an erosional slope, that lies on and is being (or was) transported across a gently sloping erosional surface at the foot of a receding hill or mountain slope.

Pedon. The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The movement of water through the soil.

Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as "saturated hydraulic conductivity," which is defined in the "Soil Survey Manual." In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as "permeability." Terms describing permeability, measured in inches per hour, are as follows:

Impermeable	less than 0.0015 inch
Very slow	0.0015 to 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plateau (geomorphology). A comparatively flat area of great extent and elevation; specifically, an extensive land region that is considerably elevated (more than 100 meters) above the adjacent lower lying terrain, is commonly limited on at least one side by an abrupt descent, and has a flat or nearly level surface. A comparatively large part of a plateau surface is near summit level.

Plowpan. A compacted layer formed in the soil directly below the plowed layer.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poorly graded. Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Pore linings. See Redoximorphic features.

Potential native plant community. See Climax plant community.

Potential rooting depth (effective rooting depth). Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

Prescribed burning. Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Proper grazing use. Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed as pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Redoximorphic concentrations. See Redoximorphic features.

Redoximorphic depletions. See Redoximorphic features.

Redoximorphic features. Redoximorphic features are associated with wetness and result from alternating periods of reduction and oxidation of iron and manganese compounds in the soil. Reduction occurs during saturation with water, and oxidation occurs when the soil is not saturated. Characteristic color patterns are created by these processes. The reduced iron and manganese ions may be removed from a soil if vertical or lateral fluxes of water occur, in which case there is no iron or manganese precipitation in that soil. Wherever the iron and manganese are oxidized and precipitated, they form either soft masses or hard concretions or nodules. Movement of iron and manganese as a result of redoximorphic processes in a soil may result in redoximorphic features that are defined as follows:

1. Redoximorphic concentrations.—These are zones of apparent accumulation of iron-manganese oxides, including:
   A. Nodules and concretions, which are cemented bodies that can be removed from the soil intact. Concretions are distinguished from nodules on the basis of internal organization. A concretion typically has concentric layers that are visible to the naked eye. Nodules do not have visible organized internal structure; *and*
   B. Masses, which are noncemented concentrations of substances within the soil matrix; *and*
   C. Pore linings, i.e., zones of accumulation along pores that may be either coatings on pore surfaces or impregnations from the matrix adjacent to the pores.
2. Redoximorphic depletions.—These are zones of low chroma (chromas less than those in the matrix) where either iron-manganese oxides alone or both iron-manganese oxides and clay have been stripped out, including:
   A. Iron depletions, i.e., zones that contain low amounts of iron and manganese oxides but have a clay content similar to that of the adjacent matrix; *and*

B. Clay depletions, i.e., zones that contain low amounts of iron, manganese, and clay (often referred to as silt coatings or skeletans).

3. Reduced matrix.—This is a soil matrix that has low chroma *in situ* but undergoes a change in hue or chroma within 30 minutes after the soil material has been exposed to air.

Reduced matrix. See Redoximorphic features.

Regolith. All unconsolidated earth materials above the solid bedrock. It includes material weathered in place from all kinds of bedrock and alluvial, glacial, eolian, lacustrine, and pyroclastic deposits.

Relief. The relative difference in elevation between the upland summits and the lowlands or valleys of a given region.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as bedrock disintegrated in place.

Rill. A very small, steep-sided channel resulting from erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. A rill generally is not an obstacle to wheeled vehicles and is shallow enough to be smoothed over by ordinary tillage.

Riser. The vertical or steep side slope (e.g., escarpment) of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural, steplike landforms, such as successive stream terraces.

Road cut. A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandstone. Sedimentary rock containing dominantly sand-sized particles.

Sapric soil material (muck). The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

Saturated hydraulic conductivity (Ksat). See Permeability.

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Scarification. The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.

Sedimentary rock. A consolidated deposit of clastic particles, chemical precipitates, or organic remains accumulated at or near the surface of the earth under normal low temperature and pressure conditions. Sedimentary rocks include consolidated equivalents of alluvium, colluvium, drift, and eolian, lacustrine, and marine deposits. Examples are sandstone, siltstone, mudstone, claystone, shale, conglomerate, limestone, dolomite, and coal.

Sequum. A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil. A group of soils that have profiles that are almost alike. All the soils of a given series have horizons that are similar in composition, thickness, and arrangement.

Shale. Sedimentary rock that formed by the hardening of a deposit of clay, silty clay, or silty clay loam and that has a tendency to split into thin layers.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shoulder. The convex, erosional surface near the top of a hillslope. A shoulder is a transition from summit to backslope.

Shrink-swell (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Shrub-coppice dune. A small, streamlined dune that forms around brush and clump vegetation.

Side slope (geomorphology). A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel. Side slopes are dominantly colluvium and slope-wash sediments.

Silica. A combination of silicon and oxygen. The mineral form is called quartz.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Siltstone. An indurated silt having the texture and composition of shale but lacking its fine lamination or fissility; a massive mudstone in which silt predominates over clay.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Sinkhole. A closed, circular or elliptical depression, commonly funnel shaped, characterized by subsurface drainage and formed either by dissolution of the surface of underlying bedrock (e.g., limestone, gypsum, or salt) or by collapse of underlying caves within bedrock. Complexes of sinkholes in carbonate-rock terrain are the main components of karst topography.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slickensides (pedogenic). Grooved, striated, and/or glossy (shiny) slip faces on structural peds, such as wedges; produced by shrink-swell processes, most commonly in soils that have a high content of expansive clays.

Slippage. A mass movement of soil that happens when the vegetation is removed and soil water is at or near saturation or when the slope is undercut.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Slope alluvium. Sediment gradually transported down the slopes of mountains or hills primarily by nonchannel alluvial processes (i.e., slope-wash processes) and characterized by particle sorting. Lateral particle sorting is evident on long slopes. In a profile sequence, sediments may be distinguished by differences in size and/or specific gravity of rock fragments and may be separated by stone lines. Burnished peds and sorting of rounded or subrounded pebbles or cobbles distinguish these materials from unsorted colluvial deposits.

Sloughed till. Water-saturated till that has flowed slowly downhill from its original place of deposit by glacial ice. It may rest on other till, on glacial outwash, or on a glaciolacustrine deposit.

Slow refill (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

Soft bedrock. Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief and by the passage of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Stone line. In a vertical cross section, a line formed by scattered fragments or a discrete layer of angular and subangular rock fragments (commonly a gravel- or cobble-sized lag concentration) that formerly was draped across a topographic surface and was later buried by additional sediments. A stone line generally caps material that was subject to weathering, soil formation, and erosion before burial. Many stone lines seem to be buried erosion pavements, originally formed by sheet and rill erosion across the land surface.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony. Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Strath terrace. A type of stream terrace; formed as an erosional surface cut on bedrock and thinly mantled with stream deposits (alluvium).

Stream terrace. One of a series of platforms in a stream valley, flanking and more or less parallel to the stream channel, originally formed near the level of the stream; represents the remnants of an abandoned flood plain, stream bed, or valley floor produced during a former state of fluvial erosion or deposition.

Stripcropping. Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grain* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Stubble mulch. Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling. Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

Substratum. The part of the soil below the solum.

Subsurface layer. Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Summit. The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the “plow layer,” or the “Ap horizon.”

Surface soil. The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Swale. A slight depression in the midst of generally level land. A shallow depression in an undulating ground moraine caused by uneven glacial deposition.

Talf. A geomorphic component of flat plains consisting of an essentially flat and broad area dominated by closed depressions and a nonintegrated or poorly integrated drainage system. Precipitation tends to pond locally, and lateral transport is slow both above and below ground. These conditions favor the accumulation of soil organic matter and a retention of fine earth sediments; better drained soils are commonly adjacent to drainageways.

Taxadjuncts. Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior. Soils are recognized as taxadjuncts only when one or more of their characteristics are slightly outside the range defined for the family of the series for which the soils are named.

Terminal moraine. An end moraine that marks the farthest advance of a glacier. It typically has the form of a massive arcuate or concentric ridge, or complex of ridges, and is underlain by till and other types of drift.

Terrace (conservation). An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geomorphology). A steplike surface, bordering a valley floor or shoreline, that represents the former position of a flood plain, lake, or seashore. The term is usually applied both to the relatively flat summit surface (tread) that was cut or built by stream or wave action and to the steeper descending slope (scarp or riser) that has graded to a lower base level of erosion.

Terracettes. Small, irregular steplike forms on steep hillslopes, especially in pasture, formed by creep or erosion of surficial materials that may be induced or enhanced by trampling of livestock, such as sheep or cattle.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying “coarse,” “fine,” or “very fine.”

Thin layer (in tables). Otherwise suitable soil material that is too thin for the specified use.

Till. Dominantly unsorted and nonstratified drift, generally unconsolidated and deposited directly by a glacier without subsequent reworking by meltwater, and consisting of a heterogeneous mixture of clay, silt, sand, gravel, stones, and boulders; rock fragments of various lithologies are embedded within a finer matrix that can range from clay to sandy loam.

Till plain. An extensive area of level to gently undulating soils underlain predominantly by till and bounded at the distal end by subordinate recessional or end moraines.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope. The gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Tread. The flat to gently sloping, topmost, laterally extensive slope of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural steplike landforms, such as successive stream terraces.

Upland. An informal, general term for the higher ground of a region, in contrast with a low-lying adjacent area, such as a valley or plain, or for land at a higher elevation than the flood plain or low stream terrace; land above the footslope zone of the hillslope continuum.

Valley fill. The unconsolidated sediment deposited by any agent (water, wind, ice, or mass wasting) so as to fill or partly fill a valley.

Variegation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Varve. A sedimentary layer or a lamina or sequence of laminae deposited in a body of still water within a year. Specifically, a thin pair of graded glaciolacustrine layers seasonally deposited, usually by meltwater streams, in a glacial lake or other body of still water in front of a glacier.

Water bars. Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

Weathering. All physical disintegration, chemical decomposition, and biologically induced changes in rocks or other deposits at or near the earth’s surface by atmospheric or biologic agents or by circulating surface waters but involving essentially no transport of the altered material.

Well graded. Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wilting point (or permanent wilting point). The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow. The uprooting and tipping over of trees by the wind.

Woody peat. An accumulation of organic material that is predominantly composed of trees, shrubs, and other woody plants.

Tables

Table 1.--Temperature and Precipitation

(Recorded in the period 1971-2000 at North Vernon, Indiana)

Month	Temperature						Precipitation				
				2 years in 10 will have--				2 years in 10 will have--			
	Average daily maximum	Average daily minimum	Average	Maximum temperature higher than--	Minimum temperature lower than--	Average number of growing degree days*	Average	Less than--	More than--	Average number of days with 0.10 inch or more	Average snowfall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January	38.8	21.7	30.2	64	-12	33	2.41	1.19	3.61	6	4.3
February	44.9	24.6	34.7	72	-7	72	2.68	1.21	4.16	5	2.7
March	55.5	34.2	44.8	81	8	223	3.72	2.24	5.07	7	1.3
April	66.4	42.5	54.5	85	22	439	4.43	2.61	6.15	7	.1
May	75.2	51.8	63.5	89	32	719	4.58	2.44	6.64	7	.0
June	83.6	60.7	72.1	94	42	952	3.80	2.00	5.64	7	.0
July	86.7	64.8	75.7	98	50	1,081	4.43	2.45	6.19	6	.0
August	84.7	62.9	73.8	96	48	1,011	4.59	2.42	6.50	6	.0
September	79.2	56.4	67.8	93	36	820	3.05	1.43	4.71	5	.0
October	67.8	44.5	56.1	85	24	496	3.13	1.80	4.08	5	.0
November	54.2	35.9	45.1	76	13	212	4.01	2.68	5.27	6	.2
December	43.4	26.4	34.9	67	-5	68	3.44	1.90	5.00	6	2.3
Yearly:											
Average	65.0	43.9	54.4	---	---	---	---	---	---	---	---
Extreme	103	-24	---	98	-14	---	---	---	---	---	---
Total	---	---	---	---	---	6,125	44.29	30.26	49.00	73	10.9

* A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (40 degrees F).

Table 2.--Freeze Dates in Spring and Fall

(Recorded in the period 1961-90 at North Vernon, Indiana)

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	Apr. 12	Apr. 25	May 14
2 years in 10 later than--	Apr. 8	Apr. 21	May 8
5 years in 10 later than--	Mar. 30	Apr. 12	Apr. 27
First freezing temperature in fall:			
1 year in 10 earlier than--	Oct. 19	Oct. 8	Sept. 29
2 years in 10 earlier than--	Oct. 25	Oct. 13	Oct. 4
5 years in 10 earlier than--	Nov. 6	Oct. 23	Oct. 14

Table 3.--Growing Season

(Recorded in the period 1971-2000 at North Vernon, Indiana)

Probability	Daily minimum temperature during growing season		
	Higher than 24 °F	Higher than 28 °F	Higher than 32 °F
	Days	Days	Days
9 years in 10	203	177	152
8 years in 10	209	184	159
5 years in 10	220	195	174
2 years in 10	230	207	188
1 year in 10	236	213	195

Table 4.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
AddA	Avonburg silt loam, 0 to 2 percent slopes	22,018	9.1
AddB2	Avonburg silt loam, 2 to 4 percent slopes, eroded	3,893	1.6
AzoA	Ayrshire fine sandy loam, sandy substratum, 0 to 2 percent slopes	24	*
BbhA	Bartle silt loam, 0 to 2 percent slopes	992	0.4
BgeAH	Birds silt loam, 0 to 1 percent slopes, frequently flooded, brief duration	76	*
BgeAHU	Birds silt loam, undrained, 0 to 1 percent slopes, frequently flooded, brief duration	431	0.2
BkeB	Bloomfield-Alvin complex, 1 to 6 percent slopes	27	*
BlbB2	Blocher, soft black shale substratum-Jennings silt loams, 2 to 6 percent slopes, eroded	1,407	0.6
BlcC2	Blocher, soft black shale substratum-Jennings-Deputy silt loams, 6 to 12 percent slopes, eroded	1,960	0.8
BlcC3	Blocher, soft black shale substratum-Jennings-Deputy silt loams, 6 to 12 percent slopes, severely eroded	1,822	0.8
BlgC2	Blocher-Cincinnati silt loams, 6 to 12 percent slopes, eroded	14,551	6.0
BlgC3	Blocher-Cincinnati silt loams, 6 to 12 percent slopes, severely eroded	7,252	3.0
BlkE2	Bonnell-Blocher-Hickory silt loams, 12 to 25 percent slopes, eroded	14,276	5.9
BnjA	Bobtown loamy fine sand, 0 to 3 percent slopes	1	*
BnuD3	Bonnell-Hickory-Blocher complex, 12 to 25 percent slopes, severely eroded	3,070	1.3
BnxE2	Bonnell-Grayford silt loams, karst, hilly, eroded	610	0.3
BnxE3	Bonnell-Grayford silt loams, karst, hilly, severely eroded	51	*
BobE4	Bonnell-Hickory clay loams, 15 to 30 percent slopes, very severely eroded	104	*
BodAQ	Bonnie silt loam, 0 to 1 percent slopes, rarely flooded	105	*
CcaG	Caneyville-Rock outcrop complex, 25 to 60 percent slopes	4,671	1.9
CcbC2	Caneyville-Zenas silt loams, karst, rolling, eroded	326	0.1
CcgD2	Caneyville and Grayford silt loams, 12 to 25 percent slopes, eroded	1,418	0.6
CcgD3	Caneyville and Grayford silt loams, 12 to 25 percent slopes, severely eroded	594	0.2
CldB2	Cincinnati-Blocher silt loams, 2 to 6 percent slopes, eroded	2,732	1.1
ClfA	Cobbsfork silt loam, 0 to 1 percent slopes	38,016	15.7
CwaAQ	Cuba silt loam, 0 to 2 percent slopes, rarely flooded	97	*
CxdA	Cyclone silty clay loam, 0 to 1 percent slopes	109	*
DfnA	Dubois silt loam, 0 to 2 percent slopes	3,704	1.5
DfnB2	Dubois silt loam, 2 to 6 percent slopes, eroded	517	0.2
DtwC2	Deputy silt loam, 6 to 15 percent slopes, eroded	2,554	1.1
DtzC3	Deputy-Trappist silty clay loams, 6 to 15 percent slopes, severely eroded	3,296	1.4
EepAQ	Elkinsville silt loam, 0 to 2 percent slopes, rarely flooded	50	*
EesB2	Elkinsville-Millstone complex, 2 to 6 percent slopes, eroded	990	0.4
FdbA	Fincastle silt loam, 0 to 2 percent slopes	960	0.4
FdqB	Fincastle-Xenia silt loams, 2 to 4 percent slopes	1,541	0.6
GmsF	Greybrook silt loam, 15 to 40 percent slopes	117	*
HccB2	Haubstadt silt loam, 2 to 6 percent slopes, eroded	3,711	1.5
HcgAH	Haymond silt loam, 0 to 2 percent slopes, frequently flooded, brief duration	2,720	1.1
HcgAW	Haymond silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration	704	0.3
HcpAP	Haymond silt loam, depression, 0 to 2 percent slopes, frequently ponded, very brief duration	113	*
HeeG	Hickory loam, 25 to 50 percent slopes	8,609	3.6
HizE2	Hickory-Grayford silt loams, 12 to 25 percent slopes, eroded	3,119	1.3
HizE3	Hickory-Grayford silt loams, 12 to 25 percent slopes, severely eroded	1,090	0.4
HleAW	Holton silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration	3,374	1.4
MhyB2	Medora silt loam, 2 to 6 percent slopes, eroded	162	*
MhyC3	Medora silt loam, 6 to 12 percent slopes, severely eroded	20	*
MmoC3	Miami clay loam, 6 to 12 percent slopes, severely eroded	826	0.3
MmoD3	Miami clay loam, 12 to 18 percent slopes, severely eroded	32	*
MnpC2	Miami silt loam, 6 to 12 percent slopes, eroded	780	0.3
MnpD2	Miami silt loam, 12 to 18 percent slopes, eroded	282	0.1
NaaA	Nabb silt loam, 0 to 2 percent slopes	600	0.2
NaaB2	Nabb silt loam, 2 to 6 percent slopes, eroded	28,275	11.7

See footnote at end of table.

Table 4.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
OfaAW	Oldenburg silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration	3,216	1.3
OmkC2	Otwell silt loam, 6 to 12 percent slopes, eroded	1,073	0.4
OmkC3	Otwell silt loam, 6 to 12 percent slopes, severely eroded	1,112	0.5
Omz	Orthents, earthen dam	39	*
PcrA	Pekin silt loam, 0 to 2 percent slopes	47	*
PcrB2	Pekin silt loam, 2 to 6 percent slopes, eroded	2,068	0.9
PcrC2	Pekin silt loam, 6 to 12 percent slopes, eroded	963	0.4
PhaA	Peoga silt loam, 0 to 1 percent slopes	5,634	2.3
PlpAH	Piopolis silty clay loam, 0 to 1 percent slopes, frequently flooded, brief duration	293	0.1
PlpAHU	Piopolis silty clay loam, undrained, 0 to 1 percent slopes, frequently flooded, brief duration	179	*
Pml	Pits, quarry	186	*
RptG	Rohan-Jessietown complex, 25 to 60 percent slopes, rocky	269	0.1
RywB2	Russell silt loam, 2 to 6 percent slopes, eroded	559	0.2
RzfA	Ryker-Muscatatuck silt loams, terrace, 0 to 2 percent slopes	210	*
RzfB2	Ryker-Muscatatuck silt loams, terrace, 2 to 6 percent slopes, eroded	632	0.3
RzgA	Ryker-Muscatatuck silt loams, karst, nearly level	249	0.1
RzgB2	Ryker-Muscatatuck silt loams, karst, undulating, eroded	4,058	1.7
RzgC2	Ryker-Muscatatuck silt loams, karst, rolling, eroded	3,255	1.3
RzhC3	Ryker-Grayford-Muscatatuck complex, karst, rolling, severely eroded	1,481	0.6
SceA	Scottsburg silt loam, 0 to 2 percent slopes	70	*
ScfB2	Scottsburg-Deputy silt loams, 2 to 6 percent slopes, eroded	2,621	1.1
SifE	Senachwine loam, 18 to 25 percent slopes	15	*
SifG	Senachwine loam, 25 to 70 percent slopes	23	*
SldAW	Shoals silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration	30	*
StaAH	Steff silt loam, 0 to 2 percent slopes, frequently flooded, brief duration	351	0.1
StaAQ	Steff silt loam, 0 to 2 percent slopes, rarely flooded	158	*
StdAH	Stendal silt loam, 0 to 2 percent slopes, frequently flooded, brief duration	1,369	0.6
StdAQ	Stendal silt loam, 0 to 2 percent slopes, rarely flooded	543	0.2
SuoAH	Stonelick fine sandy loam, 0 to 2 percent slopes, frequently flooded, brief duration	101	*
ThbD4	Trappist silty clay loam, 6 to 18 percent slopes, very severely eroded	50	*
ThcD3	Trappist-Rohan complex, 12 to 25 percent slopes, severely eroded	273	0.1
ThdD2	Trappist-Rohan silt loams, 12 to 25 percent slopes, eroded	725	0.3
Uby	Udorthents, loamy	1,256	0.5
UdaB	Urban land-Deputy-Scottsburg complex, 2 to 15 percent slopes	1,108	0.5
UfcB	Urban land-Cincinnati-Nabb complex, 2 to 12 percent slopes	1,284	0.5
UfdA	Urban land-Cobbsfork-Avonburg complex, 0 to 2 percent slopes	1,488	0.6
Usl	Udorthents, rubbish	53	*
W	Water	1,501	0.6
WaaAH	Wakeland silt loam, 0 to 2 percent slopes, frequently flooded, brief duration	1,943	0.8
WaaAW	Wakeland silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration	1,079	0.4
WnmA	Whitcomb silt loam, 0 to 2 percent slopes	279	0.1
WokAH	Wilbur silt loam, 0 to 2 percent slopes, frequently flooded, brief duration	2,036	0.8
WokAW	Wilbur silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration	299	0.1
WooAQ	Wilhite silt loam, overwash, 0 to 1 percent slopes, rarely flooded	85	*
WprAV	Wirt loam, 0 to 2 percent slopes, frequently flooded, very brief duration	326	0.1
WprAW	Wirt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration	6,762	2.8
WpuAH	Wirt silt loam, 0 to 2 percent slopes, frequently flooded, brief duration	215	*
WufB2	Williamstown silt loam, 2 to 6 percent slopes, eroded	7	*

See footnote at end of table.

Table 4.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
XabB2	Xenia silt loam, 2 to 6 percent slopes, eroded	1,241	0.5
ZnsB	Zenas silt loam, karst, undulating	685	0.3
	Total	242,278	100.0

* Less than 0.1 percent.

Table 5.--Main Limitations and Hazards Affecting Cropland and Pastureland

(See text for a description of the limitations and hazards listed in this table)

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
AddA:		
Avonburg	Wetness, low pH, crusting, restricted permeability.	Trafficability, low pH.
AddB2:		
Avonburg	Wetness, low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Trafficability, low pH, water erosion.
AzoA:		
Ayrshire	Wetness, low pH, wind erosion, moderate available water capacity.	Trafficability, low pH, wind erosion.
BbhA:		
Bartle	Wetness, low pH, crusting, moderate available water capacity, restricted permeability.	Trafficability, low pH.
BgeAH:		
Birds	Flooding, ponding, wetness, low pH, crusting.	Flooding, ponding, wetness, trafficability, low pH.
BgeAHU:		
Birds	Flooding, ponding, wetness, low pH, crusting.	Flooding, ponding, wetness, trafficability, low pH.
BkeB:		
Bloomfield	Low pH, wind erosion, low available water capacity.	Low pH, wind erosion, low available water capacity.
Alvin	Low pH, wind erosion, moderate available water capacity.	Low pH, wind erosion.
BlbB2:		
Blocher	Low pH, crusting, water erosion, restricted permeability.	Low pH, water erosion.
Jennings	Limited rooting depth (fragipan), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Limited rooting depth (fragipan), low pH, water erosion.
BlcC2:		
Blocher	Low pH, crusting, water erosion, restricted permeability.	Low pH, water erosion.

Table 5.--Main Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
BlcC2:		
Jennings	Limited rooting depth (fragipan), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Limited rooting depth (fragipan), low pH, water erosion.
Deputy	Equipment limitation (slope), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Equipment limitation (slope), low pH, water erosion.
BlcC3:		
Blocher	Low pH, crusting, water erosion, restricted permeability.	Low pH, water erosion.
Jennings	Limited rooting depth (fragipan), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Limited rooting depth (fragipan), low pH, water erosion.
Deputy	Equipment limitation (slope), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Equipment limitation (slope), low pH, water erosion.
BlgC2:		
Blocher	Low pH, crusting, water erosion, restricted permeability.	Low pH, water erosion.
Cincinnati	Limited rooting depth (fragipan), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Limited rooting depth (fragipan), low pH, water erosion.
BlgC3:		
Blocher	Low pH, crusting, water erosion, restricted permeability.	Low pH, water erosion.
Cincinnati	Wetness, limited rooting depth (fragipan), low pH, crusting, water erosion, low available water capacity, restricted permeability.	Limited rooting depth (fragipan), low pH, water erosion, low available water capacity.
BlkE2:		
Bonnell	Equipment limitation (slope), low pH, crusting, water erosion, moderate available water capacity.	Equipment limitation (slope), low pH, water erosion.
Blocher	Equipment limitation (slope), low pH, crusting, water erosion, restricted permeability.	Equipment limitation (slope), low pH, water erosion.

Table 5.--Main Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
BlkE2:		
Hickory	Equipment limitation (slope), low pH, crusting, water erosion.	Equipment limitation (slope), low pH, water erosion.
BnjA:		
Bobtown	Low pH, wind erosion, moderate available water capacity.	Low pH, wind erosion.
BnuD3:		
Bonnell	Equipment limitation (slope), low pH, crusting, water erosion, moderate available water capacity.	Equipment limitation (slope), low pH, water erosion.
Hickory	Equipment limitation (slope), low pH, crusting, water erosion.	Equipment limitation (slope), low pH, water erosion.
Blocher	Equipment limitation (slope), low pH, crusting, water erosion, restricted permeability.	Equipment limitation (slope), low pH, water erosion.
BnxE2:		
Bonnell	Equipment limitation (slope), low pH, crusting, water erosion, moderate available water capacity.	Equipment limitation (slope), low pH, water erosion.
Grayford	Equipment limitation (slope), low pH, crusting, water erosion, moderate available water capacity.	Equipment limitation (slope), low pH, water erosion.
BnxE3:		
Bonnell	Equipment limitation (slope), low pH, crusting, water erosion, moderate available water capacity.	Equipment limitation (slope), low pH, water erosion.
Grayford	Equipment limitation (slope), low pH, crusting, water erosion, moderate available water capacity.	Equipment limitation (slope), low pH, water erosion.
BobE4:		
Bonnell	Equipment limitation (slope), low pH, crusting, water erosion, moderate available water capacity.	Equipment limitation (slope), low pH, water erosion.
Hickory	Equipment limitation (slope), low pH, crusting, water erosion.	Equipment limitation (slope), low pH, water erosion.
BodAQ:		
Bonnie	Ponding, wetness, low pH, crusting.	Ponding, wetness, trafficability, low pH.

Table 5.--Main Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
CcaG:		
Caneyville	Equipment limitation (slope), low pH, water erosion, low available water capacity.	Equipment limitation (slope), low pH, water erosion, low available water capacity.
Rock outcrop.		
CcbC2:		
Caneyville	Low pH, crusting, water erosion, low available water capacity.	Low pH, water erosion, low available water capacity.
Zenas	Low pH, crusting, water erosion, moderate available water capacity.	Low pH, water erosion.
CcgD2:		
Caneyville	Equipment limitation (slope), low pH, water erosion, low available water capacity.	Equipment limitation (slope), low pH, water erosion, low available water capacity.
Grayford	Equipment limitation (slope), low pH, crusting, water erosion, moderate available water capacity.	Equipment limitation (slope), low pH, water erosion.
CcgD3:		
Caneyville	Equipment limitation (slope), low pH, crusting, water erosion, low available water capacity.	Equipment limitation (slope), low pH, water erosion, low available water capacity.
Grayford	Equipment limitation (slope), low pH, crusting, water erosion, moderate available water capacity.	Equipment limitation (slope), low pH, water erosion.
CldB2:		
Cincinnati	Limited rooting depth (fragipan), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Limited rooting depth (fragipan), low pH, water erosion.
Blocher	Low pH, crusting, water erosion, restricted permeability.	Low pH, water erosion.
ClfA:		
Cobbsfork	Ponding, wetness, low pH, crusting, restricted permeability.	Ponding, wetness, trafficability, low pH.
CwaAQ:		
Cuba	Low pH, crusting	Low pH.
CxdA:		
Cyclone	Ponding, wetness	Ponding, wetness, trafficability.

Table 5.--Main Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
DfnA:		
Dubois	Wetness, limited rooting depth (fragipan), low pH, crusting, restricted permeability.	Trafficability, limited rooting depth (fragipan), low pH.
DfnB2:		
Dubois	Wetness, limited rooting depth (fragipan), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Trafficability, limited rooting depth (fragipan), low pH, water erosion.
DtwC2:		
Deputy	Equipment limitation (slope), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Equipment limitation (slope), low pH, water erosion.
DtzC3:		
Deputy	Equipment limitation (slope), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Equipment limitation (slope), low pH, water erosion.
Trappist	Equipment limitation (slope), low pH, water erosion, low available water capacity, restricted permeability.	Equipment limitation (slope), low pH, water erosion, low available water capacity.
EepAQ:		
Elkinsville	Low pH, crusting	Low pH.
EesB2:		
Elkinsville	Low pH, crusting, water erosion.	Low pH, water erosion.
Millstone	Low pH, crusting, water erosion.	Low pH, water erosion.
FdbA:		
Fincastle	Wetness, low pH, crusting	Trafficability, low pH.
FdqB:		
Fincastle	Wetness, low pH, crusting, water erosion.	Trafficability, low pH, water erosion.
Xenia	Low pH, crusting, water erosion.	Low pH, water erosion.
GmsF:		
Greybrook	Equipment limitation (slope), low pH, water erosion, restricted permeability.	Equipment limitation (slope), low pH, water erosion.
HccB2:		
Haubstadt	Limited rooting depth (fragipan), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Limited rooting depth (fragipan), low pH, water erosion.

Table 5.--Main Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
HcgAH:		
Haymond	Flooding, low pH, crusting	Flooding, low pH.
HcgAW:		
Haymond	Flooding, low pH, crusting	Flooding, low pH.
HcpAP:		
Haymond	Ponding, low pH, crusting	Ponding, low pH.
HeeG:		
Hickory	Equipment limitation (slope), low pH, water erosion.	Equipment limitation (slope), low pH, water erosion.
HizE2:		
Hickory	Equipment limitation (slope), low pH, crusting, water erosion.	Equipment limitation (slope), low pH, water erosion.
Grayford	Equipment limitation (slope), low pH, crusting, water erosion, moderate available water capacity.	Equipment limitation (slope), low pH, water erosion.
HizE3:		
Hickory	Equipment limitation (slope), low pH, crusting, water erosion.	Equipment limitation (slope), low pH, water erosion.
Grayford	Equipment limitation (slope), low pH, crusting, water erosion, moderate available water capacity.	Equipment limitation (slope), low pH, water erosion.
HleAW:		
Holton	Flooding, wetness, low pH, crusting.	Flooding, trafficability, low pH.
MhyB2:		
Medora	Limited rooting depth (fragipan), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Limited rooting depth (fragipan), low pH, water erosion.
MhyC3:		
Medora	Wetness, limited rooting depth (fragipan), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Limited rooting depth (fragipan), low pH, water erosion.
MmoC3:		
Miami	Limited rooting depth (dense till), low pH, crusting, water erosion, low available water capacity, restricted permeability.	Limited rooting depth (dense till), low pH, water erosion, low available water capacity.

Table 5.--Main Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
MmoD3:		
Miami	Equipment limitation (slope), limited rooting depth (dense till), low pH, crusting, water erosion, low available water capacity, restricted permeability.	Equipment limitation (slope), limited rooting depth (dense till), low pH, water erosion, low available water capacity.
MnpC2:		
Miami	Limited rooting depth (dense till), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Limited rooting depth (dense till), low pH, water erosion.
MnpD2:		
Miami	Equipment limitation (slope), limited rooting depth (dense till), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Equipment limitation (slope), limited rooting depth (dense till), low pH, water erosion.
NaaA:		
Nabb	Limited rooting depth (fragipan), low pH, crusting, moderate available water capacity, restricted permeability.	Limited rooting depth (fragipan), low pH.
NaaB2:		
Nabb	Limited rooting depth (fragipan), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Limited rooting depth (fragipan), low pH, water erosion.
OfaAW:		
Oldenburg	Flooding, low pH, crusting	Flooding, low pH.
OmkC2:		
Otwell	Limited rooting depth (fragipan), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Limited rooting depth (fragipan), low pH, water erosion.
OmkC3:		
Otwell	Wetness, limited rooting depth (fragipan), low pH, crusting, water erosion, low available water capacity, restricted permeability.	Limited rooting depth (fragipan), low pH, water erosion, low available water capacity.
Omz.		
Orthents		
PcrA:		
Pekin	Low pH, crusting, moderate available water capacity, restricted permeability.	Low pH.

Table 5.--Main Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
PcrB2:		
Pekin	Low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Low pH, water erosion.
PcrC2:		
Pekin	Low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Low pH, water erosion.
PhaA:		
Peoga	Ponding, wetness, low pH, crusting, restricted permeability.	Ponding, wetness, trafficability, low pH.
PlpAH:		
Piopolis	Flooding, ponding, wetness, low pH, crusting, restricted permeability.	Flooding, ponding, wetness, trafficability, low pH.
PlpAHU:		
Piopolis	Flooding, ponding, wetness, low pH, crusting, restricted permeability.	Flooding, ponding, wetness, trafficability, low pH.
Pml.		
Pits, quarry		
RptG:		
Rohan	Equipment limitation (slope), low pH, crusting, water erosion, very low available water capacity, restricted permeability.	Equipment limitation (slope), low pH, water erosion, very low available water capacity.
Jessietown	Equipment limitation (slope), low pH, water erosion, low available water capacity, restricted permeability.	Equipment limitation (slope), low pH, water erosion, low available water capacity.
RywB2:		
Russell	Low pH, crusting, water erosion.	Low pH, water erosion.
RzfA:		
Ryker	Low pH, crusting	Low pH.
Muscatatuck	Low pH, crusting, restricted permeability.	Low pH.
RzfB2:		
Ryker	Low pH, crusting, water erosion.	Low pH, water erosion.
Muscatatuck	Low pH, crusting, water erosion, restricted permeability.	Low pH, water erosion.

Table 5.--Main Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
RzgA:		
Ryker	Low pH, crusting	Low pH.
Muscatatuck	Low pH, crusting, restricted permeability.	Low pH.
RzgB2:		
Ryker	Low pH, crusting, water erosion.	Low pH, water erosion.
Muscatatuck	Low pH, crusting, water erosion, restricted permeability.	Low pH, water erosion.
RzgC2:		
Ryker	Low pH, crusting, water erosion.	Low pH, water erosion.
Muscatatuck	Low pH, crusting, water erosion, restricted permeability.	Low pH, water erosion.
RzhC3:		
Ryker	Low pH, crusting, water erosion.	Low pH, water erosion.
Grayford	Low pH, crusting, water erosion, moderate available water capacity.	Low pH, water erosion.
Muscatatuck	Low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Low pH, water erosion.
SceA:		
Scottsburg	Low pH, crusting, restricted permeability.	Low pH.
ScfB2:		
Scottsburg	Low pH, crusting, water erosion, restricted permeability.	Low pH, water erosion.
Deputy	Low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Low pH, water erosion.
SifE:		
Senachwine	Equipment limitation (slope), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Equipment limitation (slope), low pH, water erosion.
SifG:		
Senachwine	Equipment limitation (slope), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Equipment limitation (slope), low pH, water erosion.

Table 5.--Main Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
SldAW:		
Shoals	Flooding, wetness, high pH	Flooding, trafficability, high pH.
StaAH:		
Steff	Flooding, low pH, crusting	Flooding, low pH.
StaAQ:		
Steff	Low pH, crusting	Low pH.
StdAH:		
Stendal	Flooding, wetness, low pH, crusting.	Flooding, trafficability, low pH.
StdAQ:		
Stendal	Wetness, low pH, crusting	Trafficability, low pH.
SuoAH:		
Stonelick	Flooding, high pH, moderate available water capacity.	Flooding, high pH.
ThbD4:		
Trappist	Equipment limitation (slope), low pH, water erosion, low available water capacity, restricted permeability.	Equipment limitation (slope), low pH, water erosion, low available water capacity.
ThcD3:		
Trappist	Equipment limitation (slope), low pH, water erosion, low available water capacity, restricted permeability.	Equipment limitation (slope), low pH, water erosion, low available water capacity.
Rohan	Equipment limitation (slope), low pH, crusting, water erosion, very low available water capacity, restricted permeability.	Equipment limitation (slope), low pH, water erosion, very low available water capacity.
ThdD2:		
Trappist	Equipment limitation (slope), low pH, water erosion, low available water capacity, restricted permeability.	Equipment limitation (slope), low pH, water erosion, low available water capacity.
Rohan	Equipment limitation (slope), low pH, water erosion, very low available water capacity, restricted permeability.	Equipment limitation (slope), low pH, water erosion, very low available water capacity.
Uby.		
Udorthents, loamy		
UdaB:		
Urban land.		
Deputy	Equipment limitation (slope), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Equipment limitation (slope), low pH, water erosion.

Table 5.--Main Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
UdaB:		
Scottsburg	Low pH, crusting, water erosion, restricted permeability.	Low pH, water erosion.
UfcB:		
Urban land.		
Cincinnati	Limited rooting depth (fragipan), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Limited rooting depth (fragipan), low pH, water erosion.
Nabb	Limited rooting depth (fragipan), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Limited rooting depth (fragipan), low pH, water erosion.
UfdA:		
Urban land.		
Cobbsfork	Ponding, wetness, low pH, crusting, restricted permeability.	Ponding, wetness, trafficability, low pH.
Avonburg	Wetness, low pH, crusting, restricted permeability.	Trafficability, low pH.
Usl.		
Udorthents, rubbish		
W.		
Water		
WaaAH:		
Wakeland	Flooding, wetness, low pH, crusting.	Flooding, trafficability, low pH.
WaaAW:		
Wakeland	Flooding, wetness, low pH, crusting.	Flooding, trafficability, low pH.
WnmA:		
Whitcomb	Wetness, low pH, crusting, restricted permeability.	Trafficability, low pH.
WokAH:		
Wilbur	Flooding, low pH, crusting	Flooding, low pH.
WokAW:		
Wilbur	Flooding, low pH, crusting	Flooding, low pH.
WooAQ:		
Wilhite	Ponding, wetness, low pH, crusting, restricted permeability.	Ponding, wetness, trafficability, low pH.
WprAV:		
Wirt	Flooding, low pH, crusting	Flooding, low pH.

Table 5.--Main Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
WprAW:		
Wirt	Flooding, low pH, crusting	Flooding, low pH.
WpuAH:		
Wirt	Flooding, low pH, crusting	Flooding, low pH.
WufB2:		
Williamstown	Limited rooting depth (dense till), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Limited rooting depth (dense till), low pH, water erosion.
XabB2:		
Xenia	Low pH, crusting, water erosion.	Low pH, water erosion.
ZnsB:		
Zenas	Low pH, crusting, water erosion, moderate available water capacity.	Low pH, water erosion.

Table 6.--Land Capability and Yields per Acre of Crops and Pasture

(Yields are those that can be expected under a high level of management. They are for nonirrigated areas. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Grass-legume hay	Pasture
		Bu	Bu	Bu	Tons	AUM*
AddA-----------------	2w	115	40	46	3.8	7.6
Avonburg						
AddB2----------------	2e	110	39	44	3.6	7.2
Avonburg						
AzoA-----------------	2w	115	40	46	3.8	7.6
Ayrshire						
BbhA-----------------	2w	120	42	48	4.0	8.0
Bartle						
BgeAH----------------	3w	110	38	---	---	---
Birds						
BgeAHU---------------	5w	---	---	---	---	---
Birds, undrained						
BkeB-----------------		82	29	33	2.7	5.4
Bloomfield----------	3s					
Alvin---------------	2e					
BlbB2----------------		101	35	40	3.3	6.6
Blocher-------------	2e					
Jennings------------	2e					
BlcC2----------------		91	32	37	2.9	5.8
Blocher-------------	3e					
Jennings------------	3e					
Deputy--------------	3e					
BlcC3----------------		80	28	32	2.6	4.2
Blocher, severely eroded-------------	4e					
Jennings, severely eroded-------------	4e					
Deputy, severely eroded-------------	4e					
BlgC2----------------		91	32	37	2.9	5.8
Blocher-------------	3e					
Cincinnati----------	3e					
BlgC3----------------		85	30	36	2.8	5.6
Blocher, severely eroded-------------	4e					
Cincinnati, severely eroded-------------	4e					
BlkE2----------------		66	23	26	2.1	4.2
Bonnell-------------	6e					
Blocher-------------	4e					
Hickory-------------	6e					

See footnote at end of table.

Table 6.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Grass-legume hay	Pasture
		Bu	Bu	Bu	Tons	AUM*
BnjA: Bobtown	2s	105	37	42	3.5	7.0
BnuD3:		65	23	27	2.1	4.2
Bonnell, severely eroded	6e					
Hickory, severely eroded	6e					
Blocher, severely eroded	6e					
BnxE2:		50	18	20	1.6	3.2
Bonnell	6e					
Grayford	6e					
BnxE3:		48	17	19	1.6	3.2
Bonnell, severely eroded	6e					
Grayford, severely eroded	6e					
BobE4:		---	---	---	---	---
Bonnell, very severely eroded	7e					
Hickory, very severely eroded	7e					
BodAQ: Bonnie	2w	104	36	35	3.4	6.8
CcaG:		---	---	---	---	---
Caneyville	7e					
Rock outcrop.						
CcbC2:		70	25	28	2.3	4.6
Caneyville	3e					
Zenas	2e					
CcgD2:		42	15	17	1.4	2.8
Caneyville	6e					
Grayford	4e					
CcgD3:		37	13	15	1.2	2.4
Caneyville, severely eroded	6e					
Grayford, severely eroded	6e					
CldB2:		97	34	42	3.2	6.4
Cincinnati	2e					
Blocher	2e					
ClfA: Cobbsfork	3w	108	38	43	3.6	7.2
CwaAQ: Cuba, rarely flooded	1	120	42	48	4.0	8.0
CxdA: Cyclone	2w	151	53	61	5.0	10.0

See footnote at end of table.

Table 6.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Grass-legume hay	Pasture
		Bu	Bu	Bu	Tons	AUM*
DfnA----------------- Dubois	2w	115	40	52	3.8	7.6
DfnB2---------------- Dubois	2e	110	38	49	3.6	7.2
DtwC2---------------- Deputy	3e	85	30	34	2.8	5.6
DtzC3----------------		53	18	24	1.7	3.4
Deputy, severely eroded-------------	4e					
Trappist, severely eroded-------------	4e					
EepAQ---------------- Elkinsville	1	114	40	46	3.8	7.6
EesB2----------------		103	36	41	3.4	6.8
Elkinsville---------	2e					
Millstone-----------	2e					
FdbA----------------- Fincastle	2w	130	46	58	4.3	8.6
FdqB-----------------		126	44	56	4.2	8.4
Fincastle-----------	2w					
Xenia---------------	2e					
GmsF----------------- Greybrook	7e	---	---	---	---	---
HccB2---------------- Haubstadt	2e	93	33	42	3.2	6.2
HcgAH---------------- Haymond	2w	118	41	---	---	---
HcgAW---------------- Haymond, occasionally flooded	2w	122	43	42	4.0	8.0
HcpAP---------------- Haymond, frequently ponded, depression	3w	120	42	---	4.0	8.0
HeeG----------------- Hickory	7e	---	---	---	---	---
HizE2----------------		74	26	31	2.4	4.8
Hickory-------------	6e					
Grayford------------	4e					
HizE3----------------		65	23	27	2.1	4.2
Hickory, severely eroded-------------	6e					
Grayford, severely eroded-------------	6e					

See footnote at end of table.

Table 6.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Grass-legume hay	Pasture
		Bu	Bu	Bu	Tons	AUM*
HleAW----------------- Holton, occasionally flooded	2w	105	37	36	3.5	7.0
MhyB2----------------- Medora	2e	87	31	39	2.9	5.8
MhyC3----------------- Medora, severely eroded	4e	73	26	33	2.4	4.8
MmoC3----------------- Miami, severely eroded	4e	90	32	42	3.0	6.0
MmoD3----------------- Miami, severely eroded	6e	76	26	34	2.5	5.0
MnpC2----------------- Miami	3e	97	34	44	3.2	6.4
MnpD2----------------- Miami	4e	81	28	37	2.7	5.4
NaaA------------------ Nabb	2w	98	34	43	3.2	6.4
NaaB2----------------- Nabb	2e	93	33	41	3.1	6.2
OfaAW----------------- Oldenburg, occasionally flooded	2w	105	37	35	3.5	7.0
OmkC2----------------- Otwell	3e	80	28	36	2.6	5.2
OmkC3----------------- Otwell, severely eroded	4e	75	26	34	2.5	5.0
Omz. Orthents						
PcrA------------------ Pekin	2s	105	37	42	3.5	7.0
PcrB2----------------- Pekin	2e	100	35	40	3.3	6.6
PcrC2----------------- Pekin	3e	84	29	34	2.7	5.4
PhaA------------------ Peoga	3w	108	38	43	3.6	7.2
PlpAH----------------- Piopolis	3w	105	37	---	3.5	7.0

See footnote at end of table.

Table 6.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Grass-legume hay	Pasture
		Bu	Bu	Bu	Tons	AUM*
PlpAHU--------------- Piopolis, undrained	5w	---	---	---	---	---
Pml. Pits, quarry						
RptG----------------- Rohan--------------- Jessietown----------	 7e 7e	---	---	---	---	---
RywB2---------------- Russell	2e	114	40	52	3.8	7.6
RzfA----------------- Ryker, terrace------ Muscatatuck, terrace	 1 1	119	42	48	4.0	8.0
RzfB2---------------- Ryker, terrace------ Muscatatuck, terrace	 2e 2e	113	40	46	3.7	7.4
RzgA----------------- Ryker--------------- Muscatatuck---------	 1 1	119	42	48	4.0	8.0
RzgB2---------------- Ryker--------------- Muscatatuck---------	 2e 2e	106	37	43	3.5	7.0
RzgC2---------------- Ryker--------------- Muscatatuck---------	 3e 3e	97	34	39	3.2	6.4
RzhC3---------------- Ryker, severely eroded------------- Grayford, severely eroded------------- Muscatatuck, severely eroded----	 4e 4e 4e	84	29	34	2.7	5.5
SceA----------------- Scottsburg	2w	105	37	42	3.5	6.9
ScfB2---------------- Scottsburg---------- Deputy--------------	 2e 2e	99	35	40	3.3	6.6
SifE----------------- Senachwine	6e	72	26	32	2.4	4.8
SifG----------------- Senachwine	7e	---	---	---	---	---
SldAW---------------- Shoals	2w	126	45	45	4.2	8.4
StaAH---------------- Steff	2w	110	38	---	3.6	7.2

See footnote at end of table.

Table 6.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Grass-legume hay	Pasture
		Bu	Bu	Bu	Tons	AUM*
StaAQ---------------- Steff, rarely flooded	1	120	42	48	4.0	8.0
StdAH---------------- Stendal	2w	110	39	44	3.6	7.2
StdAQ---------------- Stendal, rarely flooded	2w	120	42	48	4.0	8.0
SuoAH---------------- Stonelick	3w	80	28	---	2.6	5.3
ThbD4---------------- Trappist, very severely eroded	6e	---	---	---	---	---
ThcD3----------------		15	5	6	0.5	1.0
Trappist, severely eroded-------------	6e					
Rohan, severely eroded-------------	7e					
ThdD2----------------		24	9	10	0.8	1.6
Trappist------------	4e					
Rohan---------------	7e					
Uby. Udorthents, loamy						
UdaB-----------------		---	---	---	---	---
Urban land----------	8					
Deputy--------------	3e					
Scottsburg----------	2e					
UfcB-----------------		---	---	---	---	---
Urban land----------	8					
Cincinnati----------	3e					
Nabb----------------	2e					
UfdA-----------------		---	---	---	---	---
Urban land----------	8					
Cobbsfork-----------	3w					
Avonburg------------	2w					
Usl. Udorthents, rubbish						
W. Water						
WaaAH---------------- Wakeland	2w	120	42	---	---	---
WaaAW---------------- Wakeland, occasionally flooded	2w	121	42	42	4.0	8.0

See footnote at end of table.

Table 6.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Grass-legume hay	Pasture
		Bu	Bu	Bu	Tons	AUM*
WnmA----------------- Whitcomb	2w	101	35	45	3.3	6.6
WokAH---------------- Wilbur	2w	120	42	---	---	---
WokAW---------------- Wilbur	2w	125	44	43	4.1	8.2
WooAQ---------------- Wilhite	4w	82	29	---	2.7	5.4
WprAV---------------- Wirt	2w	98	34	3	3.2	6.4
WprAW---------------- Wirt, occasionally flooded	2w	102	36	34	3.4	6.8
WpuAH---------------- Wirt	2w	95	33	---	---	---
WufB2---------------- Williamstown	2e	106	37	47	3.5	7.0
XabB2---------------- Xenia	2e	115	40	52	3.8	7.6
ZnsB----------------- Zenas	2e	110	38	46	3.6	7.2

* Animal unit month: The amount of forage or feed required to feed one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Table 7.--Prime Farmland

(Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime farmland. If a soil is prime farmland only under certain conditions, the conditions are specified in parentheses after the map unit name)

Map symbol	Map unit name
AddA	Avonburg silt loam, 0 to 2 percent slopes (where drained)
AddB2	Avonburg silt loam, 2 to 4 percent slopes, eroded (where drained)
AzoA	Ayrshire fine sandy loam, sandy substratum, 0 to 2 percent slopes (where drained)
BbhA	Bartle silt loam, 0 to 2 percent slopes (where drained)
BgeAH	Birds silt loam, 0 to 1 percent slopes, frequently flooded, brief duration (where drained and either protected from flooding or not frequently flooded during the growing season)
BlbB2	Blocher, soft black shale substratum-Jennings silt loams, 2 to 6 percent slopes, eroded
BnjA	Bobtown loamy fine sand, 0 to 3 percent slopes
BodAQ	Bonnie silt loam, 0 to 1 percent slopes, rarely flooded (where drained)
CldB2	Cincinnati-Blocher silt loams, 2 to 6 percent slopes, eroded
ClfA	Cobbsfork silt loam, 0 to 1 percent slopes (where drained)
CwaAQ	Cuba silt loam, 0 to 2 percent slopes, rarely flooded
CxdA	Cyclone silty clay loam, 0 to 1 percent slopes (where drained)
DfnA	Dubois silt loam, 0 to 2 percent slopes (where drained)
DfnB2	Dubois silt loam, 2 to 6 percent slopes, eroded (where drained)
EepAQ	Elkinsville silt loam, 0 to 2 percent slopes, rarely flooded
EesB2	Elkinsville-Millstone complex, 2 to 6 percent slopes, eroded
FdbA	Fincastle silt loam, 0 to 2 percent slopes (where drained)
FdqB	Fincastle-Xenia silt loams, 2 to 4 percent slopes (where drained)
HccB2	Haubstadt silt loam, 2 to 6 percent slopes, eroded
HcgAH	Haymond silt loam, 0 to 2 percent slopes, frequently flooded, brief duration (where protected from flooding or not frequently flooded during the growing season)
HcgAW	Haymond silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration
HleAW	Holton silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration (where drained)
MhyB2	Medora silt loam, 2 to 6 percent slopes, eroded
NaaA	Nabb silt loam, 0 to 2 percent slopes
NaaB2	Nabb silt loam, 2 to 6 percent slopes, eroded
OfaAW	Oldenburg silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration
PcrA	Pekin silt loam, 0 to 2 percent slopes
PcrB2	Pekin silt loam, 2 to 6 percent slopes, eroded
PhaA	Peoga silt loam, 0 to 1 percent slopes (where drained)
PlpAH	Piopolis silty clay loam, 0 to 1 percent slopes, frequently flooded, brief duration (where drained and either protected from flooding or not frequently flooded during the growing season)
RywB2	Russell silt loam, 2 to 6 percent slopes, eroded
RzfA	Ryker-Muscatatuck silt loams, terrace, 0 to 2 percent slopes
RzfB2	Ryker-Muscatatuck silt loams, terrace, 2 to 6 percent slopes, eroded
RzgA	Ryker-Muscatatuck silt loams, karst, nearly level
RzgB2	Ryker-Muscatatuck silt loams, karst, undulating, eroded
SceA	Scottsburg silt loam, 0 to 2 percent slopes
ScfB2	Scottsburg-Deputy silt loams, 2 to 6 percent slopes, eroded
SldAW	Shoals silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration (where drained)
StaAH	Steff silt loam, 0 to 2 percent slopes, frequently flooded, brief duration (where protected from flooding or not frequently flooded during the growing season)
StaAQ	Steff silt loam, 0 to 2 percent slopes, rarely flooded
StdAH	Stendal silt loam, 0 to 2 percent slopes, frequently flooded, brief duration (where drained and either protected from flooding or not frequently flooded during the growing season)
StdAQ	Stendal silt loam, 0 to 2 percent slopes, rarely flooded (where drained)
SuoAH	Stonelick fine sandy loam, 0 to 2 percent slopes, frequently flooded, brief duration (where protected from flooding or not frequently flooded during the growing season)
WaaAH	Wakeland silt loam, 0 to 2 percent slopes, frequently flooded, brief duration (where drained and either protected from flooding or not frequently flooded during the growing season)
WaaAW	Wakeland silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration (where drained)
WnmA	Whitcomb silt loam, 0 to 2 percent slopes (where drained)
WokAH	Wilbur silt loam, 0 to 2 percent slopes, frequently flooded, brief duration (where protected from flooding or not frequently flooded during the growing season)
WokAW	Wilbur silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration
WooAQ	Wilhite silt loam, overwash, 0 to 1 percent slopes, rarely flooded (where drained)
WprAV	Wirt loam, 0 to 2 percent slopes, frequently flooded, very brief duration

Table 7.--Prime Farmland--Continued

Map symbol	Map unit name
WprAW	Wirt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration
WpuAH	Wirt silt loam, 0 to 2 percent slopes, frequently flooded, brief duration (where protected from flooding or not frequently flooded during the growing season)
WufB2	Williamstown silt loam, 2 to 6 percent slopes, eroded
XabB2	Xenia silt loam, 2 to 6 percent slopes, eroded
ZnsB	Zenas silt loam, karst, undulating

Table 8.--Windbreaks and Environmental Plantings

(Absence of an entry indicates that trees generally do not grow to the given height)

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
AddA:					
Avonburg	American elder, black chokeberry, common buttonbush, highbush cranberry, ninebark, northern spicebush, redosier dogwood.	American hazelnut, American witchhazel, arrowwood, cockspur hawthorn, nannyberry, prairie crabapple, roughleaf dogwood.	American plum, eastern redcedar, northern white-cedar, Washington hawthorn.	Blackgum, bur oak, common hackberry, eastern white pine, Norway spruce, shingle oak, Shumard's oak, swamp white oak.	Baldcypress, cherrybark oak, eastern cottonwood, pin oak, red maple, river birch, silver maple, sweetgum.
AddB2:					
Avonburg	American elder, black chokeberry, common buttonbush, highbush cranberry, ninebark, northern spicebush, redosier dogwood.	American hazelnut, American witchhazel, arrowwood, cockspur hawthorn, nannyberry, prairie crabapple, roughleaf dogwood.	American plum, eastern redcedar, northern white-cedar, Washington hawthorn.	Blackgum, bur oak, common hackberry, eastern white pine, Norway spruce, shingle oak, Shumard's oak, swamp white oak.	Baldcypress, cherrybark oak, eastern cottonwood, pin oak, red maple, river birch, silver maple, sweetgum.
AzoA:					
Ayrshire	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, northern spicebush, redosier dogwood, silky dogwood.	American hazelnut, American witchhazel, arrowwood, blackhaw, cockspur hawthorn, nannyberry, pawpaw, prairie crabapple, roughleaf dogwood, speckled alder.	American plum, common persimmon, eastern redcedar, northern white-cedar, Washington hawthorn.	Blackgum, bur oak, common hackberry, eastern white pine, Norway spruce, pecan, shingle oak, swamp chestnut oak, swamp white oak.	Cherrybark oak, eastern cottonwood, red maple, river birch, silver maple,sweetgum.
BbhA:					
Bartle	American elder, black chokeberry, common buttonbush, highbush cranberry, ninebark, northern spicebush, redosier dogwood.	American hazelnut, American witchhazel, arrowwood, cockspur hawthorn, nannyberry, prairie crabapple, roughleaf dogwood.	American plum, eastern redcedar, northern white-cedar, Washington hawthorn.	Blackgum, bur oak, common hackberry, eastern white pine, Norway spruce, shingle oak, Shumard's oak, swamp white oak.	Baldcypress, cherrybark oak, eastern cottonwood, pin oak, red maple, river birch, silver maple, sweetgum.

Table 8.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
BgeAH:					
Birds	American elder, black chokeberry, common buttonbush, gray dogwood, highbush cranberry, ninebark, northern spicebush, redosier dogwood, silky dogwood.	Nannyberry, roughleaf dogwood, speckled alder.	Balsam fir, hemlock, jack pine, shellbark hickory, sugar maple.	Blackgum, bur oak, pecan, swamp white oak.	Baldcypress, eastern cottonwood, pin oak, red maple, river birch, silver maple, sweetgum.
BgeAHU. Birds, undrained					
BkeB:					
Bloomfield	American elder, gray dogwood, highbush cranberry, silky dogwood.	American hazelnut, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood, smooth sumac.	American plum, common persimmon, eastern redcedar, Washington hawthorn.	Black oak, bur oak, chinkapin oak, common hackberry, eastern cottonwood, eastern white pine, red maple, scarlet oak, shingle oak, white oak.	---
Alvin	Black chokeberry, gray dogwood, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.
BlbB2:					
Blocher	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
Jennings	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood, smooth sumac.	American plum, chestnut oak, common persimmon, eastern redcedar, shagbark hickory, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, Norway spruce, shingle oak, white oak.	Baldcypress, eastern cottonwood, eastern white pine, red maple.

Table 8.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
BlcC2:					
Blocher	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
Jennings	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood, smooth sumac.	American plum, chestnut oak, common persimmon, eastern redcedar, shagbark hickory, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, Norway spruce, shingle oak, white oak.	Baldcypress, eastern cottonwood, eastern white pine, red maple.
Deputy	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
BlcC3:					
Blocher, severely eroded	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
Jennings, severely eroded.					
Deputy, severely eroded	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.

Table 8.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
BlgC2:					
Blocher	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
Cincinnati	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood, smooth sumac.	American plum, chestnut oak, common persimmon, eastern redcedar, shagbark hickory, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, Norway spruce, shingle oak, white oak.	Baldcypress, eastern cottonwood, eastern white pine, red maple.
BlgC3:					
Blocher, severely eroded	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
Cincinnati, severely eroded.					
BlkE2:					
Bonnell	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
Blocher	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.

Table 8.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
BlkE2:					
Hickory	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.
BnjA:					
Bobtown	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
BnuD3:					
Bonnell, severely eroded	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
Hickory, severely eroded	Black chokeberry, gray dogwood, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.
Blocher, severely eroded	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.

Table 8.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
BnxE2:					
Bonnell	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
Grayford	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
BnxE3:					
Bonnell, severely eroded	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
Grayford, severely eroded	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
BobE4. Bonnell-Hickory					
BodAQ:					
Bonnie	American elder, black chokeberry, common buttonbush, gray dogwood, highbush cranberry, ninebark, northern spicebush, redosier dogwood, silky dogwood.	Nannyberry, roughleaf dogwood, speckled alder.	Balsam fir, hemlock, jack pine, shellbark hickory, sugar maple.	Blackgum, bur oak, pecan, swamp white oak.	Baldcypress, eastern cottonwood, pin oak, red maple, river birch, silver maple, sweetgum.

Table 8.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
CcaG:					
Caneyville	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood.	American plum, chestnut oak, common persimmon, eastern redcedar, scarlet oak, shagbark hickory, shingle oak, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, white oak.	Baldcypress, eastern cottonwood, eastern white pine.
Rock outcrop.					
CcbC2:					
Caneyville	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood.	American plum, chestnut oak, common persimmon, eastern redcedar, scarlet oak, shagbark hickory, shingle oak, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, white oak.	Baldcypress, eastern cottonwood, eastern white pine.
Zenas	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
CcgD2:					
Caneyville	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood.	American plum, chestnut oak, common persimmon, eastern redcedar, scarlet oak, shagbark hickory, shingle oak, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, white oak.	Baldcypress, eastern cottonwood, eastern white pine.
Grayford	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.

Table 8.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
CcgD3:					
Caneyville, severely eroded	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood.	American plum, chestnut oak, common persimmon, eastern redcedar, scarlet oak, shagbark hickory, shingle oak, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, white oak.	Baldcypress, eastern cottonwood, eastern white pine.
Grayford, severely eroded	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
CldB2:					
Cincinnati	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood, smooth sumac.	American plum, chestnut oak, common persimmon, eastern redcedar, shagbark hickory, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, Norway spruce, shingle oak, white oak.	Baldcypress, eastern cottonwood, eastern white pine, red maple
Blocher	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
ClfA:					
Cobbsfork	Black chokeberry, common buttonbush, gray dogwood, ninebark, northern spicebush, silky dogwood.	Cockspur hawthorn, highbush blueberry.	Eastern redcedar, northern white-cedar, shellbark hickory.	Blackgum, pecan, shingle oak, swamp chestnut oak, swamp white oak.	American sycamore, baldcypress, eastern cottonwood, pin oak, red maple, river birch, silver maple, sweetgum.

Table 8.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
CwaAQ: Cuba	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
CxdA: Cyclone	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, northern spicebush, redosier dogwood, silky dogwood.	American hazelnut, American witchhazel, arrowwood, blackhaw, cockspur hawthorn, nannyberry, pawpaw, prairie crabapple, roughleaf dogwood, speckled alder.	American plum, common persimmon, eastern redcedar, northern white-cedar, Washington hawthorn.	Blackgum, bur oak, common hackberry, eastern white pine, Norway spruce, pecan, shingle oak, swamp chestnut oak, swamp white oak.	Cherrybark oak, eastern cottonwood, red maple, river birch, silver maple, sweetgum.
DfnA: Dubois	American elder, black chokeberry, common buttonbush, highbush cranberry, ninebark, northern spicebush, redosier dogwood.	American hazelnut, American witchhazel, arrowwood, cockspur hawthorn, nannyberry, prairie crabapple, roughleaf dogwood.	American plum, eastern redcedar, northern white-cedar, Washington hawthorn.	Blackgum, bur oak, common hackberry, eastern white pine, Norway spruce, shingle oak, Shumard's oak, swamp white oak.	Baldcypress, cherrybark oak, eastern cottonwood, pin oak, red maple, river birch, silver maple, sweetgum.
DfnB2: Dubois	American elder, black chokeberry, common buttonbush, highbush cranberry, ninebark, northern spicebush, redosier dogwood.	American hazelnut, American witchhazel, arrowwood, cockspur hawthorn, nannyberry, prairie crabapple, roughleaf dogwood.	American plum, eastern redcedar, northern white-cedar, Washington hawthorn.	Blackgum, bur oak, common hackberry, eastern white pine, Norway spruce, shingle oak, Shumard's oak, swamp white oak.	Baldcypress, cherrybark oak, eastern cottonwood, pin oak, red maple, river birch, silver maple, sweetgum.
DtwC2: Deputy	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.

Table 8.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
DtzC3:					
Deputy, severely eroded	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
Trappist, severely eroded	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood, smooth sumac.	American plum, chestnut oak, common persimmon, eastern redcedar, shagbark hickory, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, Norway spruce, shingle oak, white oak.	Baldcypress, eastern cottonwood, eastern white pine, red maple.
EepAQ:					
Elkinsville	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.
EesB2:					
Elkinsville	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
Millstone	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.

Table 8.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
FdbA:					
Fincastle	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, northern spicebush, redosier dogwood, silky dogwood.	American hazelnut, American witchhazel, arrowwood, blackhaw, cockspur hawthorn, nannyberry, pawpaw, prairie crabapple, roughleaf dogwood, speckled alder.	American plum, common persimmon, eastern redcedar, northern white-cedar, Washington hawthorn.	Blackgum, bur oak, common hackberry, eastern white pine, Norway spruce, pecan, shingle oak, swamp chestnut oak, swamp white oak.	Cherrybark oak, eastern cottonwood, red maple, river birch, silver maple, sweetgum.
FdqB:					
Fincastle	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, northern spicebush, redosier dogwood, silky dogwood.	American hazelnut, American witchhazel, arrowwood, blackhaw, cockspur hawthorn, nannyberry, pawpaw, prairie crabapple, roughleaf dogwood, speckled alder.	American plum, common persimmon, eastern redcedar, northern white-cedar, Washington hawthorn.	Blackgum, bur oak, common hackberry, eastern white pine, Norway spruce, pecan, shingle oak, swamp chestnut oak, swamp white oak.	Cherrybark oak, eastern cottonwood, red maple, river birch, silver maple, sweetgum.
Xenia	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.
GmsF:					
Greybrook	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
HccB2:					
Haubstadt	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood.	American plum, chestnut oak, common persimmon, eastern redcedar, scarlet oak, shagbark hickory, shingle oak, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, white oak.	Baldcypress, eastern cottonwood, eastern white pine.

Table 8.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
HcgAH: Haymond	Black chokeberry, gray dogwood, northern spicebush, redosier dogwood, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, common pawpaw, nannyberry, prairie crabapple, roughleaf dogwood, smooth sumac, wild sweet crab.	American plum, common persimmon, eastern redcedar, Washington hawthorn.	Blackgum, bur oak, common hackberry, pecan, shingle oak, swamp chestnut oak, swamp white oak.	Baldcypress, cherrybark oak, eastern cottonwood, pin oak, red maple, river birch, silver maple, sweetgum.
HcgAW: Haymond	Black chokeberry, gray dogwood, northern spicebush, redosier dogwood, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, common pawpaw, nannyberry, prairie crabapple, roughleaf dogwood, smooth sumac, wild sweet crab.	American plum, common persimmon, eastern redcedar, Washington hawthorn.	Blackgum, bur oak, common hackberry, pecan, shingle oak, swamp chestnut oak, swamp white oak.	Baldcypress, cherrybark oak, eastern cottonwood, pin oak, red maple, river birch, silver maple, sweetgum.
HcpAP: Haymond, frequently ponded, depression	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.
HeeG: Hickory	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.

Table 8.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
HizE2:					
Hickory	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.
Grayford	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
HizE3:					
Hickory, severely eroded	Black chokeberry, gray dogwood, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.
Grayford, severely eroded	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
HleAW:					
Holton	American elder, black chokeberry, common buttonbush, highbush cranberry, ninebark, northern spicebush, redosier dogwood.	American hazelnut, American witchhazel, cockspur hawthorn, nannyberry, roughleaf dogwood.	American plum, arrowwood, common persimmon, eastern redcedar, prairie crabapple, Washington hawthorn.	Blackgum, bur oak, common hackberry, eastern white pine, pecan, shingle oak, swamp chestnut oak, swamp white oak.	Baldcypress, cherrybark oak, eastern cottonwood, pin oak, red maple, river birch, silver maple, sweetgum.

Table 8.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
MhyB2:					
Medora	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood, smooth sumac.	American plum, chestnut oak, common persimmon, eastern redcedar, shagbark hickory, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, Norway spruce, shingle oak, white oak.	Baldcypress, eastern cottonwood, eastern white pine, red maple.
MhyC3. Medora, severely eroded					
MmoC3:					
Miami, severely eroded	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood.	American plum, chestnut oak, common persimmon, eastern redcedar, scarlet oak, shagbark hickory, shingle oak, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, white oak.	Baldcypress, eastern cottonwood, eastern white pine.
MmoD3:					
Miami, severely eroded	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood.	American plum, chestnut oak, common persimmon, eastern redcedar, scarlet oak, shagbark hickory, shingle oak, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, white oak.	Baldcypress, eastern cottonwood, eastern white pine.
MnpC2:					
Miami	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.
MnpD2:					
Miami	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.

Table 8.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
NaaA:					
Nabb	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood, smooth sumac.	American plum, chestnut oak, common persimmon, eastern redcedar, shagbark hickory, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, Norway spruce, shingle oak, white oak.	Baldcypress, eastern cottonwood, eastern white pine, red maple.
NaaB2:					
Nabb	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood, smooth sumac.	American plum, chestnut oak, common persimmon, eastern redcedar, shagbark hickory, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, Norway spruce, shingle oak, white oak.	Baldcypress, eastern cottonwood, eastern white pine, red maple.
OfaAW:					
Oldenburg	Black chokeberry, gray dogwood, northern spicebush, redosier dogwood, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, common pawpaw, nannyberry, prairie crabapple, roughleaf dogwood, smooth sumac, wild sweet crab.	American plum, common persimmon, eastern redcedar, Washington hawthorn.	Blackgum, bur oak, common hackberry, pecan, shingle oak, swamp chestnut oak, swamp white oak.	Baldcypress, cherrybark oak, eastern cottonwood, pin oak, red maple, river birch, silver maple, sweetgum.
OmkC2:					
Otwell	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood, smooth sumac.	American plum, chestnut oak, common persimmon, eastern redcedar, shagbark hickory, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, Norway spruce, shingle oak, white oak.	Baldcypress, eastern cottonwood, eastern white pine, red maple.
OmkC3. Otwell, severely eroded					
Omz. Orthents					

Table 8.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
PcrA: Pekin	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
PcrB2: Pekin	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
PcrC2: Pekin, eroded	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
PhaA: Peoga	Black chokeberry, common buttonbush, gray dogwood, ninebark, northern spicebush, silky dogwood.	Cockspur hawthorn, highbush blueberry.	Eastern redcedar, northern white-cedar, shellbark hickory.	Blackgum, pecan, shingle oak, swamp chestnut oak, swamp white oak.	American sycamore, baldcypress, eastern cottonwood, pin oak, red maple, river birch, silver maple, sweetgum.
PlpAH: Piopolis	American elder, black chokeberry, common buttonbush, gray dogwood, highbush cranberry, ninebark, northern spicebush, redosier dogwood, silky dogwood.	Nannyberry, roughleaf dogwood, speckled alder.	Balsam fir, hemlock, jack pine, shellbark hickory, sugar maple.	Blackgum, bur oak, pecan, swamp white oak.	Baldcypress, eastern cottonwood, pin oak, red maple, river birch, silver maple, sweetgum.
PlpAHU. Piopolis, undrained					
Pml. Pits, quarry					

Table 8.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
RptG: Rohan.					
Jessietown	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood, smooth sumac.	American plum, chestnut oak, common persimmon, eastern redcedar, shagbark hickory, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, Norway spruce, shingle oak, white oak.	Baldcypress, eastern cottonwood, eastern white pine, red maple.
RywB2: Russell	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
RzfA: Ryker, terrace	Black chokeberry, gray dogwood, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.
Muscatatuck, terrace	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood, smooth sumac.	American plum, chestnut oak, common persimmon, eastern redcedar, shagbark hickory, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, Norway spruce, shingle oak, white oak.	Baldcypress, eastern cottonwood, eastern white pine, red maple.
RzfB2: Ryker, terrace	Black chokeberry, gray dogwood, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.

Table 8.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
RzfB2:					
Muscatatuck, terrace	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood, smooth sumac.	American plum, chestnut oak, common persimmon, eastern redcedar, shagbark hickory, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, Norway spruce, shingle oak, white oak.	Baldcypress, eastern cottonwood, eastern white pine, red maple.
RzgA:					
Ryker	Black chokeberry, gray dogwood, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.
Muscatatuck	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood, smooth sumac.	American plum, chestnut oak, common persimmon, eastern redcedar, shagbark hickory, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, Norway spruce, shingle oak, white oak.	Baldcypress, eastern cottonwood, eastern white pine, red maple.
RzgB2:					
Ryker	Black chokeberry, gray dogwood, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.
Muscatatuck	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood, smooth sumac.	American plum, chestnut oak, common persimmon, eastern redcedar, shagbark hickory, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, Norway spruce, shingle oak, white oak.	Baldcypress, eastern cottonwood, eastern white pine, red maple.

Table 8.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
RzgC2:					
Ryker	Black chokeberry, gray dogwood, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.
Muscatatuck	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood, smooth sumac.	American plum, chestnut oak, common persimmon, eastern redcedar, shagbark hickory, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, Norway spruce, shingle oak, white oak.	Baldcypress, eastern cottonwood, eastern white pine, red maple.
RzhC3:					
Ryker, severely eroded	Black chokeberry, gray dogwood, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.
Grayford, severely eroded	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
Muscatatuck, severely eroded	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood, smooth sumac.	American plum, chestnut oak, common persimmon, eastern redcedar, shagbark hickory, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, Norway spruce, shingle oak, white oak.	Baldcypress, eastern cottonwood, eastern white pine, red maple.

Table 8.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
SceA:					
Scottsburg	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
ScfB2:					
Scottsburg	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
Deputy	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
SifE:					
Senachwine	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.
SifG:					
Senachwine	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.

Table 8.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
SldAW: Shoals	American elder, black chokeberry, common buttonbush, highbush cranberry, ninebark, northern spicebush, redosier dogwood.	American hazelnut, American witchhazel, cockspur hawthorn, nannyberry, roughleaf dogwood.	American plum, arrowwood, common persimmon, eastern redcedar, prairie crabapple, Washington hawthorn.	Blackgum, bur oak, common hackberry, eastern white pine, pecan, shingle oak, swamp chestnut oak, swamp white oak.	Baldcypress, cherrybark oak, eastern cottonwood, pin oak, red maple, river birch, silver maple, sweetgum.
StaAH: Steff	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, cockspur hawthorn, nannyberry, roughleaf dogwood.	Common persimmon, eastern redcedar, Washington hawthorn.	Blackgum, bur oak, common hackberry, Norway spruce, pecan, swamp chestnut oak, swamp white oak.	Baldcypress, cherrybark oak, eastern cottonwood, pin oak, red maple, river birch, silver maple, sweetgum.
StaAQ: Steff	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
StdAH: Stendal	American elder, black chokeberry, common buttonbush, highbush cranberry, ninebark, northern spicebush, redosier dogwood.	American hazelnut, American witchhazel, cockspur hawthorn, nannyberry, roughleaf dogwood.	American plum, arrowwood, common persimmon, eastern redcedar, prairie crabapple, Washington hawthorn.	Blackgum, bur oak, common hackberry, eastern white pine, pecan, shingle oak, swamp chestnut oak, swamp white oak.	Baldcypress, cherrybark oak, eastern cottonwood, pin oak, red maple, river birch, silver maple, sweetgum.
StdAQ: Stendal	American elder, black chokeberry, common buttonbush, highbush cranberry, ninebark, northern spicebush, redosier dogwood.	American hazelnut, American witchhazel, arrowwood, cockspur hawthorn, nannyberry, prairie crabapple, roughleaf dogwood.	American plum, eastern redcedar, northern white-cedar, Washington hawthorn.	Blackgum, bur oak, common hackberry, eastern white pine, Norway spruce, shingle oak, Shumard's oak, swamp white oak.	Baldcypress, cherrybark oak, eastern cottonwood, pin oak, red maple, river birch, silver maple, sweetgum.

Table 8.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
SuoAH:					
Stonelick	American elder, highbush cranberry, silky dogwood.	American hazelnut, cockspur hawthorn, nannyberry, pawpaw, prairie crabapple, roughleaf dogwood.	American plum, eastern redcedar, shagbark hickory, Washington hawthorn.	Black walnut, bur oak, common hackberry, Kentucky coffeetree, shingle oak, Shumard's oak.	Baldcypress, eastern cottonwood, silver maple.
ThbD4. Trappist, very severely eroded					
ThcD3:					
Trappist, severely eroded	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood, smooth sumac.	American plum, chestnut oak, common persimmon, eastern redcedar, shagbark hickory, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, Norway spruce, shingle oak, white oak.	Baldcypress, eastern cottonwood, eastern white pine, red maple.
Rohan, severely eroded.					
ThdD2:					
Trappist	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood, smooth sumac.	American plum, chestnut oak, common persimmon, eastern redcedar, shagbark hickory, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, Norway spruce, shingle oak, white oak.	Baldcypress, eastern cottonwood, eastern white pine, red maple.
Rohan.					
Uby. Udorthents, loamy					
UdaB:					
Urban land.					
Deputy	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.

Table 8.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
UdaB:					
Scottsburg	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
UfcB:					
Urban land.					
Cincinnati	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood, smooth sumac.	American plum, chestnut oak, common persimmon, eastern redcedar, shagbark hickory, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, Norway spruce, shingle oak, white oak.	Baldcypress, eastern cottonwood, eastern white pine, red maple.
Nabb	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood, smooth sumac.	American plum, chestnut oak, common persimmon, eastern redcedar, shagbark hickory, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, Norway spruce, shingle oak, white oak.	Baldcypress, eastern cottonwood, eastern white pine, red maple.
UfdA:					
Urban land.					
Cobbsfork	Black chokeberry, common buttonbush, gray dogwood, ninebark, northern spicebush, silky dogwood.	Cockspur hawthorn, highbush blueberry.	Eastern redcedar, northern white-cedar, shellbark hickory.	Blackgum, pecan, shingle oak, swamp chestnut oak, swamp white oak.	American sycamore, baldcypress, eastern cottonwood, pin oak, red maple, river birch, silver maple, sweetgum.
Avonburg	American elder, black chokeberry, common buttonbush, highbush cranberry, ninebark, northern spicebush, redosier dogwood.	American hazelnut, American witchhazel, arrowwood, cockspur hawthorn, nannyberry, prairie crabapple, roughleaf dogwood.	American plum, eastern redcedar, northern white-cedar, Washington hawthorn.	Blackgum, bur oak, common hackberry, eastern white pine, Norway spruce, shingle oak, Shumard's oak, swamp white oak.	Baldcypress, cherrybark oak, eastern cottonwood, pin oak, red maple, river birch, silver maple, sweetgum.
Usl.					
Udorthents, rubbish					

Table 8.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
W. Water					
WaaAH: Wakeland	American elder, black chokeberry, common buttonbush, highbush cranberry, ninebark, northern spicebush, redosier dogwood.	American hazelnut, American witchhazel, cockspur hawthorn, nannyberry, roughleaf dogwood.	American plum, arrowwood, common persimmon, eastern redcedar, prairie crabapple, Washington hawthorn.	Blackgum, bur oak, common hackberry, eastern white pine, pecan, shingle oak, swamp chestnut oak, swamp white oak.	Baldcypress, cherrybark oak, eastern cottonwood, pin oak, red maple, river birch, silver maple, sweetgum.
WaaAW: Wakeland	American elder, black chokeberry, common buttonbush, highbush cranberry, ninebark, northern spicebush, redosier dogwood.	American hazelnut, American witchhazel, cockspur hawthorn, nannyberry, roughleaf dogwood.	American plum, arrowwood, common persimmon, eastern redcedar, prairie crabapple, Washington hawthorn.	Blackgum, bur oak, common hackberry, eastern white pine, pecan, shingle oak, swamp chestnut oak, swamp white oak.	Baldcypress, cherrybark oak, eastern cottonwood, pin oak, red maple, river birch, silver maple, sweetgum.
WnmA: Whitcomb	American elder, black chokeberry, common buttonbush, highbush cranberry, ninebark, northern spicebush, redosier dogwood.	American hazelnut, American witchhazel, arrowwood, cockspur hawthorn, nannyberry, prairie crabapple, roughleaf dogwood.	American plum, eastern redcedar, northern white-cedar, Washington hawthorn.	Blackgum, bur oak, common hackberry, eastern white pine, Norway spruce, shingle oak, Shumard's oak, swamp white oak.	Baldcypress, cherrybark oak, eastern cottonwood, pin oak, red maple, river birch, silver maple, sweetgum.
WokAH: Wilbur	Black chokeberry, gray dogwood, northern spicebush, redosier dogwood, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, common pawpaw, nannyberry, prairie crabapple, roughleaf dogwood, smooth sumac, wild sweet crab.	American plum, common persimmon, eastern redcedar, Washington hawthorn.	Blackgum, bur oak, common hackberry, pecan, shingle oak, swamp chestnut oak, swamp white oak.	Baldcypress, cherrybark oak, eastern cottonwood, pin oak, red maple, river birch, silver maple, sweetgum.

Table 8.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
WokAW: Wilbur	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, northern spicebush, redosier dogwood, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, common pawpaw, nannyberry, prairie crabapple, roughleaf dogwood, smooth sumac, wild sweet crab.	American plum, common persimmon, eastern redcedar, Washington hawthorn.	Blackgum, bur oak, common hackberry, pecan, shingle oak, swamp chestnut oak, swamp white oak.	Baldcypress, cherrybark oak, eastern cottonwood, pin oak, red maple, river birch, silver maple, sweetgum.
WooAQ: Wilhite	American elder, black chokeberry, common buttonbush, gray dogwood, highbush cranberry, ninebark, northern spicebush, redosier dogwood, silky dogwood.	Nannyberry, roughleaf dogwood, speckled alder.	Balsam fir, hemlock, jack pine, shellbark hickory, sugar maple.	Blackgum, bur oak, pecan, swamp white oak.	Baldcypress, eastern cottonwood, pin oak, red maple, river birch, silver maple, sweetgum.
WprAV: Wirt	Black chokeberry, gray dogwood, northern spicebush, redosier dogwood, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, common pawpaw, nannyberry, prairie crabapple, roughleaf dogwood, smooth sumac, wild sweet crab.	American plum, common persimmon, eastern redcedar, Washington hawthorn.	Blackgum, bur oak, common hackberry, pecan, shingle oak, swamp chestnut oak, swamp white oak.	Baldcypress, cherrybark oak, eastern cottonwood, pin oak, red maple, river birch, silver maple, sweetgum.
WprAW: Wirt	Black chokeberry, gray dogwood, northern spicebush, redosier dogwood, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, common pawpaw, nannyberry, prairie crabapple, roughleaf dogwood, smooth sumac, wild sweet crab.	American plum, common persimmon, eastern redcedar, Washington hawthorn.	Blackgum, bur oak, common hackberry, pecan, shingle oak, swamp chestnut oak, swamp white oak.	Baldcypress, cherrybark oak, eastern cottonwood, pin oak, red maple, river birch, silver maple, sweetgum.

Table 8.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
WpuAH:					
Wirt	Black chokeberry, gray dogwood, northern spicebush, redosier dogwood, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, common pawpaw, nannyberry, prairie crabapple, roughleaf dogwood, smooth sumac, wild sweet crab.	American plum, common persimmon, eastern redcedar, Washington hawthorn.	Blackgum, bur oak, common hackberry, pecan, shingle oak, swamp chestnut oak, swamp white oak.	Baldcypress, cherrybark oak, eastern cottonwood, pin oak, red maple, river birch, silver maple, sweetgum.
WufB2:					
Williamstown	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.
XabB2:					
Xenia	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, eastern redcedar, shagbark hickory, Washington hawthorn.	Black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, eastern cottonwood, eastern white pine, pin oak, tuliptree.
ZnsB:					
Zenas	Black chokeberry, gray dogwood, ninebark, northern spicebush, silky dogwood.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.

Table 9.--Forestland Productivity

(An asterisk following a species name indicates that the species is not recommended for planting in low-lying areas of the soil listed. Absence of an entry indicates that information was not available)

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
AddA:				
Avonburg	White oak	70	57	American beech, American sycamore, baldcypress, bitternut hickory, blackgum, bur oak, cherrybark oak, eastern cottonwood, eastern white pine, northern red oak, Norway spruce, pin oak, shingle oak, silver maple, sugar maple, swamp chestnut oak, swamp white oak, sweetgum, white oak.
	Tuliptree	85	86	
	Sweetgum	80	86	
	Northern red oak	75	57	
AddB2:				
Avonburg	White oak	70	57	American beech, American sycamore, baldcypress, bitternut hickory, blackgum, bur oak, cherrybark oak, eastern cottonwood, eastern white pine, northern red oak, Norway spruce, pin oak, shingle oak, silver maple, sugar maple, swamp chestnut oak, swamp white oak, sweetgum, white oak.
	Tuliptree	85	86	
	Sweetgum	80	86	
	Northern red oak	75	57	

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
AzoA:				
Ayrshire	White oak	85	72	American beech, baldcypress, bitternut hickory, bur oak, cherrybark oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pin oak, shingle oak, Shumard's oak, silver maple, sugar maple, swamp chestnut oak, swamp white oak, sweetgum, tuliptree, white oak.
	Sweetgum	100	143	
	Tuliptree	100	114	
BbhA:				
Bartle	White oak	75	57	American beech, American sycamore, baldcypress, bitternut hickory, blackgum, bur oak, cherrybark oak, eastern cottonwood, eastern white pine, northern red oak, Norway spruce, pin oak, shingle oak, silver maple, sugar maple, swamp chestnut oak, swamp white oak, sweetgum, white oak.
	Sweetgum	80	86	
	Tuliptree	85	86	
BgeAH:				
Birds	Pin oak	90	72	American sycamore, baldcypress, blackgum, bur oak, overcup oak, pecan, pin oak, red maple, river birch, shellbark hickory, Shumard's oak, silver maple, swamp white oak, sweetgum.
BgeAHU:				
Birds, undrained	Pin oak	90	72	---

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
BkeB:				
Bloomfield	Black oak	70	57	Black oak, bur oak, chestnut oak, chinkapin oak, eastern white pine, pignut hickory, scarlet oak, shagbark hickory, shingle oak, Virginia pine, white oak.
Alvin	Northern red oak	80	57	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.
	Tuliptree	90	86	
	White oak	80	57	
BlbB2:				
Blocher	Northern red oak	76	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	Tuliptree	90	86	
Jennings	Northern red oak	70	57	Baldcypress, black oak, blackgum, bur oak, chestnut oak, common persimmon, eastern white pine, scarlet oak, shingle oak, southern red oak, Virginia pine, white oak.
	Tuliptree	100	114	
	Black oak	65	43	

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
BlcC2:				
Blocher	Northern red oak	76	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	Tuliptree	90	86	
Jennings	Northern red oak	70	57	Baldcypress, black oak, blackgum, bur oak, chestnut oak, common persimmon, eastern white pine, scarlet oak, shingle oak, southern red oak, Virginia pine, white oak.
	Tuliptree	100	114	
	Black oak	65	43	
Deputy	Northern red oak	71	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	Tuliptree	90	86	

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
BlcC3:				
Blocher, severely eroded	Northern red oak----	76	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	Tuliptree-----------	90	86	
Jennings, severely eroded-----------------	Northern red oak----	70	57	---
	Tuliptree-----------	100	114	
Deputy, severely eroded	Northern red oak----	71	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	Tuliptree-----------	90	86	
BlgC2:				
Blocher-----------------	Northern red oak----	76	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	Tuliptree-----------	90	86	

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
BlgC2:				
Cincinnati	Northern red oak	80	57	Baldcypress, black oak, blackgum, bur oak, chestnut oak, common persimmon, eastern white pine, scarlet oak, shingle oak, southern red oak, Virginia pine, white oak.
BlgC3:				
Blocher, severely eroded	Northern red oak	76	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	Tuliptree	90	86	
Cincinnati, severely eroded	Northern red oak	80	57	---
BlkE2:				
Bonnell	Northern red oak	80	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	Tuliptree	90	86	

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
BlkE2:				
Blocher	Northern red oak	76	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	Tuliptree	90	86	
Hickory	Northern red oak	85	72	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.
	Tuliptree	95	100	
	White oak	85	72	
BnjA:				
Bobtown	Tuliptree	100	114	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	White oak	85	72	

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
BnuD3:				
Bonnell, severely eroded	Northern red oak----	70	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
Hickory, severely eroded	White oak-----------	85	72	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.
	Northern red oak----	85	72	
	Tuliptree-----------	95	100	
Blocher, severely eroded	Northern red oak----	76	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	Tuliptree-----------	90	86	

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
BnxE2:				
Bonnell	Northern red oak	80	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	Tuliptree	90	86	
Grayford	Tuliptree	98	100	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	White oak	90	72	
BnxE3:				
Bonnell, severely eroded	Northern red oak	70	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
BnxE3:				
Grayford, severely eroded	Tuliptree	98	100	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	White oak	90	72	
BobE4:				
Bonnell, very severely eroded	Northern red oak	65	43	---
Hickory, very severely eroded	White oak	85	72	---
BodAQ:				
Bonnie	Pin oak	90	72	American sycamore, baldcypress, blackgum, bur oak, overcup oak, pecan, pin oak, red maple, river birch, shellbark hickory, Shumard's oak, silver maple, swamp white oak, sweetgum.
CcaG:				
Caneyville	Black oak	71	57	Black cherry, black oak, blackgum, bur oak, chestnut oak, chinkapin oak, eastern white pine, northern red oak, pignut hickory, scarlet oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white oak.
	Tuliptree	90	86	
	White oak	64	43	
Rock outcrop.				

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
CcbC2:				
Caneyville	Black oak	71	57	Black cherry, black oak, blackgum, bur oak, chestnut oak, chinkapin oak, eastern white pine, northern red oak, pignut hickory, scarlet oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white oak.
	White oak	64	43	
Zenas	Tuliptree	98	100	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	White oak	90	72	
CcgD2:				
Caneyville	Black oak	71	57	Black cherry, black oak, blackgum, bur oak, chestnut oak, chinkapin oak, eastern white pine, northern red oak, pignut hickory, scarlet oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white oak.
	Tuliptree	90	86	
	White oak	64	43	

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
CcgD2:				
Grayford	White oak	90	72	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	Tuliptree	98	100	
CcgD3:				
Caneyville, severely eroded	Black oak	65	43	Black cherry, black oak, blackgum, bur oak, chestnut oak, chinkapin oak, eastern white pine, northern red oak, pignut hickory, scarlet oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white oak.
	Chinkapin oak	51	29	
	Eastern redcedar	36	43	
	Scarlet oak	53	43	
Grayford, severely eroded	White oak	90	72	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	Tuliptree	98	100	

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
CldB2:				
Cincinnati	Northern red oak	80	57	Baldcypress, black oak, blackgum, bur oak, chestnut oak, common persimmon, eastern white pine, scarlet oak, shingle oak, southern red oak, Virginia pine, white oak.
Blocher	Northern red oak	76	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	Tuliptree	90	86	
ClfA:				
Cobbsfork	Pin oak	100	86	American sycamore, baldcypress, blackgum, bur oak, eastern cottonwood, overcup oak, pin oak, red maple, Shumard's oak, silver maple, swamp white oak, sweetgum.
CwaAQ:				
Cuba	Tuliptree	100	114	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
CxdA:				
Cyclone	Sweetgum	90	100	American beech, baldcypress, bitternut hickory, bur oak, cherrybark oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pin oak, shingle oak, Shumard's oak, silver maple, sugar maple, swamp chestnut oak, swamp white oak, sweetgum, tuliptree, white oak.
	Pin oak	90	72	
DfnA:				
Dubois	Tuliptree	95	100	American beech, American sycamore, baldcypress, bitternut hickory, blackgum, bur oak, cherrybark oak, eastern cottonwood, eastern white pine*, northern red oak*, Norway spruce, pin oak, shingle oak, silver maple, sugar maple, swamp chestnut oak, swamp white oak, sweetgum, white oak*.
	Northern red oak	80	57	

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
DfnB2:				
Dubois	Tuliptree	95	100	American beech, American sycamore, baldcypress, bitternut hickory, blackgum, bur oak, cherrybark oak, eastern cottonwood, eastern white pine, northern red oak, Norway spruce, pin oak, shingle oak, silver maple, sugar maple, swamp chestnut oak, swamp white oak, sweetgum, white oak.
	Northern red oak	80	57	
DtwC2:				
Deputy	Northern red oak	71	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	Tuliptree	90	86	
DtzC3:				
Deputy, severely eroded	Northern red oak	71	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	Tuliptree	90	86	

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
DtzC3:				
Trappist, severely eroded	Virginia pine	55	86	Black oak, blackgum, bur oak, eastern white pine, scarlet oak, shingle oak, white oak.
EepAQ:				
Elkinsville	White oak	90	72	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.
EesB2:				
Elkinsville	White oak	90	72	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
EesB2:				
Millstone	White oak	90	72	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	Northern red oak	80	57	
FdbA:				
Fincastle	Tuliptree	85	86	American beech, baldcypress, bitternut hickory, bur oak, cherrybark oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pin oak, shingle oak, Shumard's oak, silver maple, sugar maple, swamp chestnut oak, swamp white oak, sweetgum, tuliptree, white oak.
	White oak	75	57	
	Northern red oak	75	57	

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
FdqB:				
Fincastle	Tuliptree	85	86	American beech, baldcypress, bitternut hickory, bur oak, cherrybark oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pin oak, shingle oak, Shumard's oak, silver maple, sugar maple, swamp chestnut oak, swamp white oak, sweetgum, tuliptree, white oak.
	White oak	75	57	
	Northern red oak	75	57	
	Sweetgum	80	86	
Xenia	Tuliptree	98	100	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.
	White oak	90	72	
GmsF:				
Greybrook	Northern red oak	84	72	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	Sugar maple	82	57	
	Tuliptree	99	100	

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
HccB2:				
Haubstadt	Northern red oak	80	57	Black cherry, black oak, blackgum, bur oak, chestnut oak, chinkapin oak, eastern white pine, northern red oak, pignut hickory, scarlet oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white oak.
HcgAH:				
Haymond	---	---	---	Baldcypress, bitternut hickory, black walnut, bur oak, cherrybark oak, Kentucky coffeetree, overcup oak, pecan, pin oak, shellbark hickory, shingle oak, Shumard's oak, swamp chestnut oak, swamp white oak.
HcgAW:				
Haymond	Black walnut	70	---	Baldcypress, bitternut hickory, black walnut, bur oak, cherrybark oak, Kentucky coffeetree, overcup oak, pecan, pin oak, shellbark hickory, shingle oak, Shumard's oak, swamp chestnut oak, swamp white oak.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
HcpAP:				
Haymond, frequently ponded, depression	---	---	---	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.
HeeG:				
Hickory	White oak	85	72	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	Northern red oak	85	72	
	Tuliptree	95	100	
HizE2:				
Hickory	Northern red oak	85	72	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.
	Tuliptree	95	100	
	White oak	85	72	

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
HizE2:				
Grayford	White oak	90	72	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	Tuliptree	98	100	
HizE3:				
Hickory, severely eroded	White oak	85	72	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.
	Northern red oak	85	72	
	Tuliptree	95	100	
Grayford, severely eroded	White oak	90	72	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	Tuliptree	98	100	

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
HleAW:				
Holton	Pin oak	85	72	American sycamore, baldcypress, blackgum, bur oak, overcup oak, pecan, pin oak, red maple, river birch, shellbark hickory, shingle oak, Shumard's oak, silver maple, swamp chestnut oak, swamp white oak, sweetgum.
MhyB2:				
Medora	White oak	90	72	Baldcypress, black oak, blackgum, bur oak, chestnut oak, common persimmon, eastern white pine, scarlet oak, shingle oak, southern red oak, Virginia pine, white oak.
	Tuliptree	98	100	
MhyC3:				
Medora, severely eroded	White oak	75	57	---
	Tuliptree	90	86	
MmoC3:				
Miami, severely eroded	Tuliptree	98	100	Black cherry, black oak, blackgum, bur oak, chestnut oak, chinkapin oak, eastern white pine, northern red oak, pignut hickory, scarlet oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white oak.
	White oak	90	72	
MmoD3:				
Miami, severely eroded	Tuliptree	98	100	Black cherry, black oak, blackgum, bur oak, chestnut oak, chinkapin oak, eastern white pine, northern red oak, pignut hickory, scarlet oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white oak.
	White oak	90	72	

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
MnpC2:				
Miami	White oak	90	72	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.
	Tuliptree	98	100	
MnpD2:				
Miami	Tuliptree	98	100	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.
	White oak	90	72	
NaaA:				
Nabb	Northern red oak	80	57	Baldcypress, black oak, blackgum, bur oak, chestnut oak, common persimmon, eastern white pine, scarlet oak, shingle oak, southern red oak, Virginia pine, white oak.
	White oak	80	57	
NaaB2:				
Nabb	Northern red oak	80	57	Baldcypress, black oak, blackgum, bur oak, chestnut oak, common persimmon, eastern white pine, scarlet oak, shingle oak, southern red oak, Virginia pine, white oak.
	White oak	80	57	

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
OfaAW:				
Oldenburg	---	---	---	Baldcypress, bitternut hickory, black walnut, bur oak, cherrybark oak, Kentucky coffeetree, overcup oak, pecan, pin oak, shellbark hickory, shingle oak, Shumard's oak, swamp chestnut oak, swamp white oak.
OmkC2:				
Otwell	White oak	65	43	Baldcypress, black oak, blackgum, bur oak, chestnut oak, common persimmon, eastern white pine, scarlet oak, shingle oak, southern red oak, Virginia pine, white oak.
OmkC3:				
Otwell, severely eroded	White oak	65	43	---
Omz.				
Orthents				
PcrA:				
Pekin	Sugar maple	75	43	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	Tuliptree	85	86	
	White oak	70	57	

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Volume of wood fiber	Trees to plant
			cu ft/ac	
PcrB2:				
Pekin	Sugar maple	75	43	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	Tuliptree	85	86	
	White oak	70	57	
PcrC2:				
Pekin, eroded	White oak	70	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	Sugar maple	75	43	
	Tuliptree	85	86	
PhaA:				
Peoga	Pin oak	100	86	American sycamore, baldcypress, blackgum, bur oak, eastern cottonwood, overcup oak, pin oak, red maple, Shumard's oak, silver maple, swamp white oak, sweetgum.
	Sweetgum	90	100	

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
PlpAH:				
Piopolis	Pin oak	90	72	American sycamore, baldcypress, blackgum, bur oak, overcup oak, pecan, pin oak, red maple, river birch, shellbark hickory, Shumard's oak, silver maple, swamp white oak, sweetgum.
PlpAHU:				
Piopolis, undrained	Pin oak	90	72	---
Pml.				
Pits, quarry				
RptG:				
Rohan.				
Jessietown	White oak	60	43	Black oak, blackgum, bur oak, eastern white pine, scarlet oak, shingle oak, white oak.
	Black oak	62	43	
RywB2:				
Russell	Northern red oak	90	72	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	White oak	90	72	
	Tuliptree	98	100	

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
RzfA:				
Ryker, terrace	Tuliptree	98	100	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.
	White oak	90	72	
Muscatatuck, terrace	Northern red oak	80	57	Baldcypress, black oak, blackgum, bur oak, chestnut oak, common persimmon, eastern white pine, scarlet oak, shingle oak, southern red oak, Virginia pine, white oak.
RzfB2:				
Ryker, terrace	Tuliptree	98	100	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.
	White oak	90	72	
Muscatatuck, terrace	Northern red oak	80	57	Baldcypress, black oak, blackgum, bur oak, chestnut oak, common persimmon, eastern white pine, scarlet oak, shingle oak, southern red oak, Virginia pine, white oak.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
RzgA:				
Ryker	Tuliptree White oak	98 90	100 72	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.
Muscatatuck	Northern red oak	80	57	Baldcypress, black oak, blackgum, bur oak, chestnut oak, common persimmon, eastern white pine, scarlet oak, shingle oak, southern red oak, Virginia pine, white oak.
RzgB2:				
Ryker	Tuliptree White oak	98 90	100 72	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.
Muscatatuck	Northern red oak	80	57	Baldcypress, black oak, blackgum, bur oak, chestnut oak, common persimmon, eastern white pine, scarlet oak, shingle oak, southern red oak, Virginia pine, white oak.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
RzgC2:				
Ryker	White oak	90	72	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.
	Tuliptree	98	100	
Muscatatuck	Northern red oak	80	57	Baldcypress, black oak, blackgum, bur oak, chestnut oak, common persimmon, eastern white pine, scarlet oak, shingle oak, southern red oak, Virginia pine, white oak.
RzhC3:				
Ryker, severely eroded	White oak	90	72	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.
	Tuliptree	98	100	

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
RzhC3:				
Grayford, severely eroded	White oak	90	72	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	Tuliptree	98	100	
Muscatatuck, severely eroded	Northern red oak	80	57	Baldcypress, black oak, blackgum, bur oak, chestnut oak, common persimmon, eastern white pine, scarlet oak, shingle oak, southern red oak, Virginia pine, white oak.
SceA:				
Scottsburg	Northern red oak	70	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	Tuliptree	85	86	

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Volume of wood fiber	Trees to plant
			cu ft/ac	
ScfB2:				
Scottsburg	Northern red oak	70	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, green ash, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	Tuliptree	85	86	
Deputy	Northern red oak	71	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	Tuliptree	90	86	
SifE:				
Senachwine	Northern red oak	85	72	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
SifG:				
Senachwine	Northern red oak	85	72	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.
SldAW:				
Shoals	Pin oak	90	72	American sycamore, baldcypress, blackgum, bur oak, overcup oak, pecan, pin oak, red maple, river birch, shellbark hickory, shingle oak, Shumard's oak, silver maple, swamp chestnut oak, swamp white oak, sweetgum.
StaAH:				
Steff	Sweetgum	100	143	American sycamore, baldcypress, blackgum, bur oak, cherrybark oak, eastern cottonwood, overcup oak, pin oak, shingle oak, silver maple, swamp chestnut oak, swamp white oak, sweetgum.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
StaAQ:				
Steff	Tuliptree	107	114	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
StdAH:				
Stendal	Pin oak	90	72	American sycamore, baldcypress, blackgum, bur oak, overcup oak, pecan, pin oak, red maple, river birch, shellbark hickory, shingle oak, Shumard's oak, silver maple, swamp chestnut oak, swamp white oak, sweetgum.
	Sweetgum	85	86	
StdAQ:				
Stendal	Sweetgum	85	86	American beech, American sycamore, baldcypress, bitternut hickory, blackgum, bur oak, cherrybark oak, eastern cottonwood, eastern white pine, northern red oak, Norway spruce, pin oak, shingle oak, silver maple, sugar maple, swamp chestnut oak, swamp white oak, sweetgum, white oak.
	Tuliptree	90	86	

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
SuoAH:				
Stonelick	---	---	---	American sycamore, bitternut hickory, black walnut, bur oak, chinkapin oak, common hackberry, eastern redcedar, pecan, shagbark hickory, shingle oak, Shumard's oak, silver maple.
ThbD4:				
Trappist, very severely eroded	Virginia pine	52	72	---
ThcD3:				
Trappist, severely eroded	Virginia pine	55	86	Black oak, blackgum, bur oak, eastern white pine, scarlet oak, shingle oak, white oak.
Rohan, severely eroded	Virginia pine	52	72	---
ThdD2:				
Trappist	White oak	62	43	Black oak, blackgum, bur oak, eastern white pine, scarlet oak, shingle oak, white oak.
	Black oak	68	57	
Rohan	Virginia pine	58	86	---
	Black oak	63	43	
Uby.				
Udorthents, loamy				
UdaB:				
Urban land.				
Deputy	Northern red oak	71	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	Tuliptree	90	86	

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
UdaB:				
Scottsburg	Northern red oak	70	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, green ash, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	Tuliptree	85	86	
UfcB:				
Urban land.				
Cincinnati	Northern red oak	80	57	Baldcypress, black oak, blackgum, bur oak, chestnut oak, common persimmon, eastern white pine, scarlet oak, shingle oak, southern red oak, Virginia pine, white oak.
Nabb	Northern red oak	80	57	Baldcypress, black oak, blackgum, bur oak, chestnut oak, common persimmon, eastern white pine, scarlet oak, shingle oak, southern red oak, Virginia pine, white oak.
	White oak	80	57	
UfdA:				
Urban land.				
Cobbsfork	Pin oak	100	86	American sycamore, baldcypress, blackgum, bur oak, eastern cottonwood, overcup oak, pin oak, red maple, Shumard's oak, silver maple, swamp white oak, sweetgum.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
UfdA:				
Avonburg	White oak	70	57	American beech, American sycamore, baldcypress, bitternut hickory, blackgum, bur oak, cherrybark oak, eastern cottonwood, eastern white pine*, northern red oak*, Norway spruce, pin oak, shingle oak, silver maple, sugar maple, swamp chestnut oak, swamp white oak, sweetgum, white oak*.
	Tuliptree	85	86	
	Sweetgum	80	86	
	Northern red oak	75	57	
Usl. Udorthents, rubbish				
W. Water				
WaaAH:				
Wakeland	Pin oak	90	72	American sycamore, baldcypress, blackgum, bur oak, overcup oak, pecan, pin oak, red maple, river birch, shellbark hickory, shingle oak, Shumard's oak, silver maple, swamp chestnut oak, swamp white oak, sweetgum.
	Sweetgum	88	100	
WaaAW:				
Wakeland	Pin oak	90	72	American sycamore, baldcypress, blackgum, bur oak, overcup oak, pecan, pin oak, red maple, river birch, shellbark hickory, shingle oak, Shumard's oak, silver maple, swamp chestnut oak, swamp white oak, sweetgum.
	Sweetgum	88	100	

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
WnmA:				
Whitcomb	White oak	70	57	American beech, American sycamore, baldcypress, bitternut hickory, blackgum, bur oak, cherrybark oak, eastern cottonwood, eastern white pine*, northern red oak*, Norway spruce, pin oak, shingle oak, silver maple, sugar maple, swamp chestnut oak, swamp white oak, sweetgum, white oak*.
WokAH:				
Wilbur	---	---	---	Baldcypress, bitternut hickory, black walnut, bur oak, cherrybark oak, Kentucky coffeetree, overcup oak, pecan, pin oak, shellbark hickory, shingle oak, Shumard's oak, swamp chestnut oak, swamp white oak.
WokAW:				
Wilbur	---	---	---	Baldcypress, bitternut hickory, black walnut, bur oak, cherrybark oak, Kentucky coffeetree, overcup oak, pecan, pin oak, shellbark hickory, shingle oak, Shumard's oak, swamp chestnut oak, swamp white oak.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Volume of wood fiber	Trees to plant
			cu ft/ac	
WooAQ:				
Wilhite	Pin oak	86	72	American sycamore, baldcypress, blackgum, bur oak, overcup oak, pecan, pin oak, red maple, river birch, shellbark hickory, Shumard's oak, silver maple, swamp white oak, sweetgum.
	Sweetgum	90	100	
WprAV:				
Wirt	---	---	---	Baldcypress, bitternut hickory, black walnut, bur oak, cherrybark oak, Kentucky coffeetree, overcup oak, pecan, pin oak, shellbark hickory, shingle oak, Shumard's oak, swamp chestnut oak, swamp white oak.
WprAW:				
Wirt	---	---	---	Baldcypress, bitternut hickory, black walnut, bur oak, cherrybark oak, Kentucky coffeetree, overcup oak, pecan, pin oak, shellbark hickory, shingle oak, Shumard's oak, swamp chestnut oak, swamp white oak.
WpuAH:				
Wirt	---	---	---	Baldcypress, bitternut hickory, black walnut, bur oak, cherrybark oak, Kentucky coffeetree, overcup oak, pecan, pin oak, shellbark hickory, shingle oak, Shumard's oak, swamp chestnut oak, swamp white oak.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
WufB2:				
Williamstown	Northern red oak	90	72	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.
	Tuliptree	110	129	
XabB2:				
Xenia	Tuliptree	98	100	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.
	White oak	90	72	
ZnsB:				
Zenas	Tuliptree	98	100	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	White oak	90	72	

Table 10a.--Forestland Management

(Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AddA:							
Avonburg------------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
AddB2:							
Avonburg------------	75	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
AzoA:							
Ayrshire------------	88	Slight		Moderately suited		Moderate	
				Wetness	0.50	Low strength	0.50
BbhA:							
Bartle--------------	83	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
BgeAH:							
Birds---------------	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Ponding	1.00	Low strength	1.00
		Wetness	1.00	Flooding	1.00		
		Low strength	0.50	Low strength	0.50		
BgeAHU:							
Birds, undrained----	90	Severe		Poorly suited		Severe	
		Flooding	1.00	Ponding	1.00	Low strength	1.00
		Wetness	1.00	Flooding	1.00	Wetness	0.50
		Low strength	0.50	Wetness	1.00		
				Low strength	0.50		
BkeB:							
Bloomfield----------	50	Moderate		Well suited		Moderate	
		Sandiness	0.50			Low strength	0.50
Alvin---------------	45	Slight		Well suited		Moderate	
						Low strength	0.50
BlbB2:							
Blocher-------------	50	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
Jennings------------	40	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
BlcC2:							
Blocher-------------	42	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Landslides	0.04	Low strength	0.50		
				Landslides	0.04		
Jennings------------	27	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Landslides	0.04	Low strength	0.50		
				Landslides	0.04		

Table 10a.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
BlcC2:							
Deputy	25	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Landslides	0.04	Low strength	0.50		
				Landslides	0.04		
BlcC3:							
Blocher, severely eroded	40	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Landslides	0.04	Low strength	0.50		
				Landslides	0.04		
Jennings, severely eroded	31	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Landslides	0.04	Low strength	0.50		
				Wetness	0.50		
				Landslides	0.04		
Deputy, severely eroded	21	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Landslides	0.04	Low strength	0.50		
				Landslides	0.04		
BlgC2:							
Blocher	54	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Landslides	0.04	Low strength	0.50		
				Landslides	0.04		
Cincinnati	35	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Landslides	0.04	Low strength	0.50		
				Landslides	0.04		
BlgC3:							
Blocher, severely eroded	45	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Landslides	0.04	Low strength	0.50		
				Landslides	0.04		
Cincinnati, severely eroded	34	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Landslides	0.04	Low strength	0.50		
				Wetness	0.50		
				Landslides	0.04		
BlkE2:							
Bonnell	40	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
		Landslides	0.42	Low strength	0.50		
				Landslides	0.42		

Table 10a.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
BlkE2:							
Blocher	30	Moderate		Poorly suited		Severe	
		Low strength	0.50	Slope	1.00	Low strength	1.00
		Landslides	0.27	Low strength	0.50		
				Landslides	0.27		
Hickory	20	Moderate		Poorly suited		Severe	
		Landslides	0.54	Slope	1.00	Low strength	1.00
		Slope	0.50	Landslides	0.54		
				Low strength	0.50		
BnjA:							
Bobtown	92	Moderate		Well suited		Moderate	
		Sandiness	0.50			Low strength	0.50
BnuD3:							
Bonnell, severely eroded	37	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
		Landslides	0.36	Low strength	0.50		
				Landslides	0.36		
Hickory, severely eroded	31	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
		Landslides	0.45	Low strength	0.50		
				Landslides	0.45		
Blocher, severely eroded	25	Moderate		Poorly suited		Severe	
		Low strength	0.50	Slope	1.00	Low strength	1.00
		Landslides	0.27	Low strength	0.50		
				Landslides	0.27		
BnxE2:							
Bonnell	65	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
		Landslides	0.42	Low strength	0.50		
				Landslides	0.42		
Grayford	25	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
		Restrictive layer	0.50	Low strength	0.50		
		Landslides	0.36	Landslides	0.36		
BnxE3:							
Bonnell, severely eroded	65	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
		Landslides	0.42	Low strength	0.50		
				Landslides	0.42		
Grayford, severely eroded	25	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
		Restrictive layer	0.50	Low strength	0.50		
		Landslides	0.36	Landslides	0.36		

Table 10a.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
BobE4:							
Bonnell, very severely eroded	53	Moderate		Poorly suited		Severe	
		Landslides	0.54	Slope	1.00	Low strength	1.00
		Slope	0.50	Landslides	0.54		
				Low strength	0.50		
Hickory, very severely eroded	36	Moderate		Poorly suited		Severe	
		Landslides	0.54	Slope	1.00	Low strength	1.00
		Slope	0.50	Landslides	0.54		
				Low strength	0.50		
BodAQ:							
Bonnie	85	Severe		Poorly suited		Severe	
		Wetness	1.00	Ponding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
CcaG:							
Caneyville	55	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Landslides	0.60	Landslides	0.60		
		Low strength	0.50	Low strength	0.50		
Rock outcrop	19	Not rated		Not rated		Not rated	
CcbC2:							
Caneyville	45	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Restrictive layer	0.50	Low strength	0.50		
		Landslides	0.04	Landslides	0.04		
Zenas	40	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
CcgD2:							
Caneyville	45	Moderate		Poorly suited		Severe	
		Restrictive layer	0.50	Slope	1.00	Low strength	1.00
		Slope	0.50	Low strength	0.50		
		Landslides	0.42	Landslides	0.42		
Grayford	45	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
		Restrictive layer	0.50	Low strength	0.50		
		Landslides	0.36	Landslides	0.36		
CcgD3:							
Caneyville, severely eroded	45	Severe		Poorly suited		Severe	
		Restrictive layer	1.00	Slope	1.00	Low strength	1.00
		Slope	0.50	Low strength	0.50		
		Landslides	0.42	Landslides	0.42		
Grayford, severely eroded	45	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
		Restrictive layer	0.50	Low strength	0.50		
		Landslides	0.33	Landslides	0.33		

Table 10a.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
CldB2:							
Cincinnati	45	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
Blocher	45	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
ClfA:							
Cobbsfork	85	Moderate		Poorly suited		Severe	
		Low strength	0.50	Ponding	1.00	Low strength	1.00
				Wetness	0.50		
				Low strength	0.50		
CwaAQ:							
Cuba	92	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
CxdA:							
Cyclone	90	Moderate		Poorly suited		Severe	
		Wetness	0.75	Ponding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
				Wetness	0.50		
DfnA:							
Dubois	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
DfnB2:							
Dubois	77	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
DtwC2:							
Deputy	75	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Landslides	0.04	Low strength	0.50		
				Landslides	0.04		
DtzC3:							
Deputy, severely eroded	45	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Landslides	0.04	Low strength	0.50		
				Landslides	0.04		
Trappist, severely eroded	30	Moderate		Moderately suited		Severe	
		Restrictive layer	0.50	Slope	0.50	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
		Landslides	0.04	Landslides	0.04		
EepAQ:							
Elkinsville	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
EesB2:							
Elkinsville	52	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
Millstone	43	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00

Table 10a.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
FdbA:							
Fincastle	84	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	1.00
				Low strength	0.50		
FdqB:							
Fincastle	50	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	1.00
				Low strength	0.50		
Xenia	40	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
GmsF:							
Greybrook	89	Moderate		Poorly suited		Severe	
		Landslides	0.60	Slope	1.00	Low strength	1.00
		Slope	0.50	Landslides	0.60		
				Low strength	0.50		
HccB2:							
Haubstadt	84	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
HcgAH:							
Haymond	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
HcgAW:							
Haymond	82	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
HcpAP:							
Haymond, frequently ponded, depression	86	Moderate		Poorly suited		Severe	
		Low strength	0.50	Ponding	1.00	Low strength	1.00
				Low strength	0.50		
HeeG:							
Hickory	87	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Landslides	0.60	Landslides	0.60		
		Low strength	0.50	Low strength	0.50		
HizE2:							
Hickory	55	Moderate		Poorly suited		Severe	
		Landslides	0.54	Slope	1.00	Low strength	1.00
		Slope	0.50	Landslides	0.54		
				Low strength	0.50		
Grayford	35	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
		Restrictive layer	0.50	Low strength	0.50		
		Landslides	0.36	Landslides	0.36		

Table 10a.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
HizE3:							
Hickory, severely eroded	55	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
		Landslides	0.45	Low strength	0.50		
				Landslides	0.45		
Grayford, severely eroded	35	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
		Restrictive layer	0.50	Low strength	0.50		
		Landslides	0.36	Landslides	0.36		
HleAW:							
Holton	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Wetness	1.00	Low strength	0.50		
		Low strength	0.50				
MhyB2:							
Medora	88	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
MhyC3:							
Medora, severely eroded	75	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Landslides	0.04	Low strength	0.50		
				Wetness	0.50		
				Landslides	0.04		
MmoC3:							
Miami, severely eroded	97	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Landslides	0.04	Low strength	0.50		
				Landslides	0.04		
MmoD3:							
Miami, severely eroded	97	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
		Landslides	0.30	Low strength	0.50		
				Landslides	0.30		
MnpC2:							
Miami	95	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Landslides	0.04	Low strength	0.50		
				Landslides	0.04		
MnpD2:							
Miami	95	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
		Landslides	0.30	Low strength	0.50		
				Landslides	0.30		
NaaA:							
Nabb	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00

Table 10a.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
NaaB2:							
Nabb	78	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
OfaAW:							
Oldenburg	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
OmkC2:							
Otwell	72	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Landslides	0.04	Low strength	0.50		
				Landslides	0.04		
OmkC3:							
Otwell, severely eroded	72	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Landslides	0.04	Low strength	0.50		
				Wetness	0.50		
				Landslides	0.04		
Omz:							
Orthents	100	Not rated		Not rated		Not rated	
PcrA:							
Pekin	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
PcrB2:							
Pekin	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
PcrC2:							
Pekin, eroded	72	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Landslides	0.04	Low strength	0.50		
				Landslides	0.04		
PhaA:							
Peoga	83	Moderate		Poorly suited		Severe	
		Low strength	0.50	Ponding	1.00	Low strength	1.00
				Wetness	0.50		
				Low strength	0.50		
PlpAH:							
Piopolis	97	Severe		Poorly suited		Severe	
		Flooding	1.00	Ponding	1.00	Low strength	1.00
		Wetness	1.00	Flooding	1.00		
		Low strength	0.50	Low strength	0.50		
PlpAHU:							
Piopolis, undrained	98	Severe		Poorly suited		Severe	
		Flooding	1.00	Ponding	1.00	Low strength	1.00
		Wetness	1.00	Flooding	1.00	Wetness	0.50
		Low strength	0.50	Wetness	1.00		
				Low strength	0.50		

Table 10a.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
Pml:							
Pits, quarry	100	Not rated		Not rated		Not rated	
RptG:							
Rohan	45	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Landslides	0.60	Landslides	0.60		
				Low strength	0.50		
Jessietown	36	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Landslides	0.60	Landslides	0.60		
		Low strength	0.50	Low strength	0.50		
RywB2:							
Russell	76	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
RzfA:							
Ryker, terrace	52	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
Muscatatuck, terrace	48	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
RzfB2:							
Ryker, terrace	52	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
Muscatatuck, terrace	40	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
RzgA:							
Ryker	45	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
Muscatatuck	45	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
RzgB2:							
Ryker	50	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
Muscatatuck	40	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
RzgC2:							
Ryker	50	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Stickiness/slope	0.50	Slope	0.50		
		Landslides	0.02	Landslides	0.02		
Muscatatuck	35	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Landslides	0.02	Slope	0.50		
				Landslides	0.02		

Table 10a.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
RzhC3:							
Ryker, severely eroded	37	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Stickiness/slope	0.50	Slope	0.50		
		Landslides	0.02	Landslides	0.02		
Grayford, severely eroded	30	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Landslides	0.04	Low strength	0.50		
				Landslides	0.04		
Muscatatuck, severely eroded	28	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Stickiness/slope	0.50	Slope	0.50		
		Landslides	0.02	Landslides	0.02		
SceA:							
Scottsburg	95	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
ScfB2:							
Scottsburg	50	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
Deputy	40	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
SifE:							
Senachwine	90	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
		Landslides	0.45	Low strength	0.50		
				Landslides	0.45		
SifG:							
Senachwine	90	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Landslides	0.60	Landslides	0.60		
		Low strength	0.50	Low strength	0.50		
SldAW:							
Shoals	90	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Wetness	0.50		
				Low strength	0.50		
StaAH:							
Steff	88	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
StaAQ:							
Steff	86	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00

Table 10a.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
StdAH:							
Stendal	93	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Wetness	0.50	Low strength	0.50		
		Low strength	0.50				
StdAQ:							
Stendal	88	Severe		Moderately suited		Severe	
		Wetness	1.00	Low strength	0.50	Low strength	1.00
		Low strength	0.50				
SuoAH:							
Stonelick	100	Severe		Poorly suited		Moderate	
		Flooding	1.00	Flooding	1.00	Low strength	0.50
ThbD4:							
Trappist, very severely eroded	73	Moderate		Poorly suited		Severe	
		Restrictive layer	0.50	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
		Landslides	0.24	Landslides	0.24		
ThcD3:							
Trappist, severely eroded	44	Severe		Poorly suited		Severe	
		Restrictive layer	1.00	Slope	1.00	Low strength	1.00
		Slope	0.50	Low strength	0.50		
		Landslides	0.30	Landslides	0.30		
Rohan, severely eroded	29	Severe		Poorly suited		Severe	
		Restrictive layer	1.00	Slope	1.00	Low strength	1.00
		Slope	0.50	Low strength	0.50		
		Landslides	0.42	Landslides	0.42		
ThdD2:							
Trappist	49	Moderate		Poorly suited		Severe	
		Restrictive layer	0.50	Slope	1.00	Low strength	1.00
		Slope	0.50	Low strength	0.50		
		Landslides	0.30	Landslides	0.30		
Rohan	33	Severe		Poorly suited		Severe	
		Restrictive layer	1.00	Slope	1.00	Low strength	1.00
		Slope	0.50	Low strength	0.50		
		Landslides	0.42	Landslides	0.42		
Uby:							
Udorthents, loamy	100	Not rated		Not rated		Not rated	
UdaB:							
Urban land	46	Not rated		Not rated		Not rated	
Deputy	16	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Landslides	0.04	Low strength	0.50		
				Landslides	0.04		
Scottsburg	16	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00

Table 10a.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
UfcB:							
Urban land----------	49	Not rated		Not rated		Not rated	
Cincinnati----------	16	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Landslides	0.04	Low strength	0.50		
				Landslides	0.04		
Nabb----------------	16	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
UfdA:							
Urban land----------	57	Not rated		Not rated		Not rated	
Cobbsfork-----------	17	Moderate		Poorly suited		Severe	
		Low strength	0.50	Ponding	1.00	Low strength	1.00
				Wetness	0.50		
				Low strength	0.50		
Avonburg------------	16	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
Usl:							
Udorthents, rubbish	100	Not rated		Not rated		Not rated	
W:							
Water---------------	100	Not rated		Not rated		Not rated	
WaaAH:							
Wakeland------------	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Wetness	1.00	Low strength	0.50		
		Low strength	0.50				
WaaAW:							
Wakeland------------	82	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Wetness	1.00	Low strength	0.50		
		Low strength	0.50				
WnmA:							
Whitcomb------------	87	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
WokAH:							
Wilbur--------------	88	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
WokAW:							
Wilbur--------------	83	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
WooAQ:							
Wilhite-------------	96	Severe		Poorly suited		Severe	
		Wetness	1.00	Ponding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		

Table 10a.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WprAV:							
Wirt----------------	83	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
WprAW:							
Wirt----------------	83	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
WpuAH:							
Wirt----------------	88	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
WufB2:							
Williamstown--------	82	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
XabB2:							
Xenia---------------	95	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
ZnsB:							
Zenas---------------	80	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00

Table 10b.--Forestland Management

(Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
AddA:							
Avonburg	85	Slight		Slight		Moderately suited	
						Low strength	0.50
AddB2:							
Avonburg	75	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
AzoA:							
Ayrshire	88	Slight		Slight		Moderately suited	
						Wetness	0.50
BbhA:							
Bartle	83	Slight		Slight		Moderately suited	
						Low strength	0.50
BgeAH:							
Birds	85	Slight		Slight		Poorly suited	
						Ponding	1.00
						Flooding	1.00
						Low strength	0.50
BgeAHU:							
Birds, undrained	90	Slight		Slight		Poorly suited	
						Ponding	1.00
						Flooding	1.00
						Wetness	1.00
						Low strength	0.50
BkeB:							
Bloomfield	50	Slight		Slight		Well suited	
Alvin	45	Slight		Slight		Well suited	
BlbB2:							
Blocher	50	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
Jennings	40	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
BlcC2:							
Blocher	42	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Landslides	0.04
Jennings	27	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Landslides	0.04

Table 10b.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
BlcC2:							
Deputy	25	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Landslides	0.04
BlcC3:							
Blocher, severely eroded	40	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Landslides	0.04
Jennings, severely eroded	31	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Wetness	0.50
						Landslides	0.04
Deputy, severely eroded	21	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Landslides	0.04
BlgC2:							
Blocher	54	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Landslides	0.04
Cincinnati	35	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Landslides	0.04
BlgC3:							
Blocher, severely eroded	45	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Landslides	0.04
Cincinnati, severely eroded	34	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Wetness	0.50
						Landslides	0.04
BlkE2:							
Bonnell	40	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.42

Table 10b.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
BlkE2:							
Blocher	30	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.27
Hickory	20	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Landslides	0.54
						Low strength	0.50
BnjA:							
Bobtown	92	Slight		Slight		Well suited	
BnuD3:							
Bonnell, severely eroded	37	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.36
Hickory, severely eroded	31	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.45
Blocher, severely eroded	25	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.27
BnxE2:							
Bonnell	65	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.42
Grayford	25	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.36
BnxE3:							
Bonnell, severely eroded	65	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.42
Grayford, severely eroded	25	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.36

Table 10b.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
BobE4:							
Bonnell, very severely eroded	53	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Landslides	0.54
						Low strength	0.50
Hickory, very severely eroded	36	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Landslides	0.54
						Low strength	0.50
BodAQ:							
Bonnie	85	Slight		Slight		Poorly suited	
						Ponding	1.00
						Low strength	0.50
CcaG:							
Caneyville	55	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Landslides	0.60
						Low strength	0.50
Rock outcrop	19	Not rated		Not rated		Not rated	
CcbC2:							
Caneyville	45	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Landslides	0.04
Zenas	40	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
CcgD2:							
Caneyville	45	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.42
Grayford	45	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.36
CcgD3:							
Caneyville, severely eroded	45	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.42
Grayford, severely eroded	45	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.33

Table 10b.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CldB2:							
Cincinnati	45	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
Blocher	45	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
ClfA:							
Cobbsfork	85	Slight		Slight		Poorly suited	
						Ponding	1.00
						Wetness	0.50
						Low strength	0.50
CwaAQ:							
Cuba	92	Slight		Slight		Moderately suited	
						Low strength	0.50
CxdA:							
Cyclone	90	Slight		Slight		Poorly suited	
						Ponding	1.00
						Low strength	0.50
						Wetness	0.50
DfnA:							
Dubois	85	Slight		Slight		Moderately suited	
						Low strength	0.50
DfnB2:							
Dubois	77	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
DtwC2:							
Deputy	75	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Landslides	0.04
DtzC3:							
Deputy, severely eroded	45	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Landslides	0.04
Trappist, severely eroded	30	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Landslides	0.04
EepAQ:							
Elkinsville	90	Slight		Slight		Moderately suited	
						Low strength	0.50
EesB2:							
Elkinsville	52	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
Millstone	43	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50

Table 10b.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
FdbA:							
Fincastle	84	Slight		Slight		Moderately suited	
						Wetness	0.50
						Low strength	0.50
FdqB:							
Fincastle	50	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
						Low strength	0.50
Xenia	40	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
GmsF:							
Greybrook	89	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Landslides	0.60
						Low strength	0.50
HccB2:							
Haubstadt	84	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
HcgAH:							
Haymond	85	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
HcgAW:							
Haymond	82	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
HcpAP:							
Haymond, frequently ponded, depression	86	Slight		Slight		Poorly suited	
						Ponding	1.00
						Low strength	0.50
HeeG:							
Hickory	87	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Landslides	0.60
						Low strength	0.50
HizE2:							
Hickory	55	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Landslides	0.54
						Low strength	0.50
Grayford	35	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.36

Table 10b.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
HizE3:							
Hickory, severely eroded	55	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.45
Grayford, severely eroded	35	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.36
HleAW:							
Holton	85	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
MhyB2:							
Medora	88	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
MhyC3:							
Medora, severely eroded	75	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Wetness	0.50
						Landslides	0.04
MmoC3:							
Miami, severely eroded	97	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Landslides	0.04
MmoD3:							
Miami, severely eroded	97	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.30
MnpC2:							
Miami	95	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Landslides	0.04
MnpD2:							
Miami	95	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.30
NaaA:							
Nabb	85	Slight		Slight		Moderately suited	
						Low strength	0.50

Table 10b.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
NaaB2:							
Nabb	78	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
OfaAW:							
Oldenburg	85	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
OmkC2:							
Otwell	72	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Landslides	0.04
OmkC3:							
Otwell, severely eroded	72	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Wetness	0.50
						Landslides	0.04
Omz:							
Orthents	100	Not rated		Not rated		Not rated	
PcrA:							
Pekin	90	Slight		Slight		Moderately suited	
						Low strength	0.50
PcrB2:							
Pekin	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
PcrC2:							
Pekin, eroded	72	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Landslides	0.04
PhaA:							
Peoga	83	Slight		Slight		Poorly suited	
						Ponding	1.00
						Wetness	0.50
						Low strength	0.50
PlpAH:							
Piopolis	97	Slight		Slight		Poorly suited	
						Ponding	1.00
						Flooding	1.00
						Low strength	0.50
PlpAHU:							
Piopolis, undrained	98	Slight		Slight		Poorly suited	
						Ponding	1.00
						Flooding	1.00
						Wetness	1.00
						Low strength	0.50

Table 10b.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
Pml:							
Pits, quarry	100	Not rated		Not rated		Not rated	
RptG:							
Rohan	45	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Landslides	0.60
						Low strength	0.50
Jessietown	36	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Landslides	0.60
						Low strength	0.50
RywB2:							
Russell	76	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
RzfA:							
Ryker, terrace	52	Slight		Slight		Moderately suited	
						Low strength	0.50
Muscatatuck, terrace	48	Slight		Slight		Moderately suited	
						Low strength	0.50
RzfB2:							
Ryker, terrace	52	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
Muscatatuck, terrace	40	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
RzgA:							
Ryker	45	Slight		Slight		Moderately suited	
						Low strength	0.50
Muscatatuck	45	Slight		Slight		Moderately suited	
						Low strength	0.50
RzgB2:							
Ryker	50	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
Muscatatuck	40	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
RzgC2:							
Ryker	50	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
						Landslides	0.02
Muscatatuck	35	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
						Landslides	0.02

Table 10b.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
RzhC3:							
Ryker, severely eroded	37	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
						Landslides	0.02
Grayford, severely eroded	30	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Landslides	0.04
Muscatatuck, severely eroded	28	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
						Landslides	0.02
SceA:							
Scottsburg	95	Slight		Slight		Moderately suited	
						Low strength	0.50
ScfB2:							
Scottsburg	50	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
Deputy	40	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
SifE:							
Senachwine	90	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.45
SifG:							
Senachwine	90	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Landslides	0.60
						Low strength	0.50
SldAW:							
Shoals	90	Slight		Slight		Poorly suited	
						Flooding	1.00
						Wetness	0.50
						Low strength	0.50
StaAH:							
Steff	88	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
StaAQ:							
Steff	86	Slight		Slight		Moderately suited	
						Low strength	0.50

Table 10b.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
StdAH:							
Stendal	93	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
StdAQ:							
Stendal	88	Slight		Slight		Moderately suited	
						Low strength	0.50
SuoAH:							
Stonelick	100	Slight		Slight		Poorly suited	
						Flooding	1.00
ThbD4:							
Trappist, very severely eroded	73	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.24
ThcD3:							
Trappist, severely eroded	44	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.30
Rohan, severely eroded	29	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.42
ThdD2:							
Trappist	49	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.30
Rohan	33	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.42
Uby:							
Udorthents, loamy	100	Not rated		Not rated		Not rated	
UdaB:							
Urban land	46	Not rated		Not rated		Not rated	
Deputy	16	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Landslides	0.04
Scottsburg	16	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50

Table 10b.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
UfcB:							
Urban land	49	Not rated		Not rated		Not rated	
Cincinnati	16	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Landslides	0.04
Nabb	16	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
UfdA:							
Urban land	57	Not rated		Not rated		Not rated	
Cobbsfork	17	Slight		Slight		Poorly suited	
						Ponding	1.00
						Wetness	0.50
						Low strength	0.50
Avonburg	16	Slight		Slight		Moderately suited	
						Low strength	0.50
Usl:							
Udorthents, rubbish	100	Not rated		Not rated		Not rated	
W:							
Water	100	Not rated		Not rated		Not rated	
WaaAH:							
Wakeland	85	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
WaaAW:							
Wakeland	82	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
WnmA:							
Whitcomb	87	Slight		Slight		Moderately suited	
						Low strength	0.50
WokAH:							
Wilbur	88	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
WokAW:							
Wilbur	83	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
WooAQ:							
Wilhite	96	Slight		Slight		Poorly suited	
						Ponding	1.00
						Low strength	0.50

Table 10b.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
WprAV:							
Wirt	83	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
WprAW:							
Wirt	83	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
WpuAH:							
Wirt	88	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
WufB2:							
Williamstown	82	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
XabB2:							
Xenia	95	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
ZnsB:							
Zenas	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50

Table 10c.--Forestland Management

(Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
AddA:							
Avonburg	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
AddB2:							
Avonburg	75	Well suited		Well suited		Moderately suited	
						Low strength	0.50
AzoA:							
Ayrshire	88	Well suited		Well suited		Well suited	
BbhA:							
Bartle	83	Well suited		Well suited		Moderately suited	
						Low strength	0.50
BgeAH:							
Birds	85	Well suited		Well suited		Poorly suited	
						Wetness	1.00
						Low strength	0.50
BgeAHU:							
Birds, undrained	90	Moderately suited		Moderately suited		Poorly suited	
		Wetness	0.50	Wetness	0.50	Wetness	1.00
						Low strength	0.50
BkeB:							
Bloomfield	50	Well suited		Well suited		Well suited	
Alvin	45	Well suited		Well suited		Well suited	
BlbB2:							
Blocher	50	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Jennings	40	Well suited		Well suited		Moderately suited	
						Low strength	0.50
BlcC2:							
Blocher	42	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
Jennings	27	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
Deputy	25	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
BlcC3:							
Blocher, severely eroded	40	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50

Table 10c.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
BlcC3:							
Jennings, severely eroded	31	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
Deputy, severely eroded	21	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
BlgC2:							
Blocher	54	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
Cincinnati	35	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
BlgC3:							
Blocher, severely eroded	45	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
Cincinnati, severely eroded	34	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
BlkE2:							
Bonnell	40	Moderately suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.50		
Blocher	30	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
Hickory	20	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
						Slope	0.50
BnjA:							
Bobtown	92	Well suited		Well suited		Well suited	
BnuD3:							
Bonnell, severely eroded	37	Moderately suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.50		
Hickory, severely eroded	31	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
						Slope	0.50
Blocher, severely eroded	25	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50

Table 10c.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
BnxE2:							
Bonnell	65	Moderately suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.50		
Grayford	25	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
BnxE3:							
Bonnell, severely eroded	65	Moderately suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.50		
Grayford, severely eroded	25	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
BobE4:							
Bonnell, very severely eroded	53	Moderately suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.50	Slope	0.50
Hickory, very severely eroded	36	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
						Slope	0.50
BodAQ:							
Bonnie	85	Well suited		Well suited		Poorly suited	
						Wetness	1.00
						Low strength	0.50
CcaG:							
Caneyville	55	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
Rock outcrop	19	Not rated		Not rated		Not rated	
CcbC2:							
Caneyville	45	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
				Slope	0.50		
Zenas	40	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
CcgD2:							
Caneyville	45	Moderately suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.50		

Table 10c.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
CcgD2:							
Grayford------------	45	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
CcgD3:							
Caneyville, severely eroded-------------	45	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.75		
Grayford, severely eroded-------------	45	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
CldB2:							
Cincinnati----------	45	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Blocher-------------	45	Well suited		Well suited		Moderately suited	
						Low strength	0.50
ClfA:							
Cobbsfork-----------	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
CwaAQ:							
Cuba----------------	92	Well suited		Well suited		Moderately suited	
						Low strength	0.50
CxdA:							
Cyclone-------------	90	Poorly suited		Poorly suited		Poorly suited	
		Wetness	0.75	Wetness	0.75	Wetness	0.75
						Low strength	0.50
DfnA:							
Dubois--------------	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
DfnB2:							
Dubois--------------	77	Well suited		Well suited		Moderately suited	
						Low strength	0.50
DtwC2:							
Deputy--------------	75	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
DtzC3:							
Deputy, severely eroded-------------	45	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
Trappist, severely eroded-------------	30	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
EepAQ:							
Elkinsville---------	90	Well suited		Well suited		Moderately suited	
						Low strength	0.50

Table 10c.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
EesB2:							
Elkinsville	52	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Millstone	43	Well suited		Well suited		Moderately suited	
						Low strength	0.50
FdbA:							
Fincastle	84	Well suited		Well suited		Moderately suited	
						Low strength	0.50
FdqB:							
Fincastle	50	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Xenia	40	Well suited		Well suited		Moderately suited	
						Low strength	0.50
GmsF:							
Greybrook	89	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
						Low strength	0.50
HccB2:							
Haubstadt	84	Well suited		Well suited		Moderately suited	
						Low strength	0.50
HcgAH:							
Haymond	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
HcgAW:							
Haymond	82	Well suited		Well suited		Moderately suited	
						Low strength	0.50
HcpAP:							
Haymond, frequently ponded, depression	86	Well suited		Well suited		Moderately suited	
						Low strength	0.50
HeeG:							
Hickory	87	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
						Low strength	0.50
HizE2:							
Hickory	55	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
						Slope	0.50
Grayford	35	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
HizE3:							
Hickory, severely eroded	55	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
						Slope	0.50

Table 10c.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
HizE3:							
Grayford, severely eroded	35	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
HleAW:							
Holton	85	Well suited		Well suited		Poorly suited	
						Wetness	1.00
						Low strength	0.50
MhyB2:							
Medora	88	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
MhyC3:							
Medora, severely eroded	75	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		
MmoC3:							
Miami, severely eroded	97	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
MmoD3:							
Miami, severely eroded	97	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
MnpC2:							
Miami	95	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
MnpD2:							
Miami	95	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
NaaA:							
Nabb	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
NaaB2:							
Nabb	78	Well suited		Well suited		Moderately suited	
						Low strength	0.50
OfaAW:							
Oldenburg	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
OmkC2:							
Otwell	72	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
OmkC3:							
Otwell, severely eroded	72	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50

Table 10c.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
Omz:							
Orthents	100	Not rated		Not rated		Not rated	
PcrA:							
Pekin	90	Well suited		Well suited		Moderately suited	
						Low strength	0.50
PcrB2:							
Pekin	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
PcrC2:							
Pekin, eroded	72	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
PhaA:							
Peoga	83	Well suited		Well suited		Moderately suited	
						Low strength	0.50
PlpAH:							
Piopolis	97	Well suited		Well suited		Poorly suited	
						Wetness	1.00
						Low strength	0.50
PlpAHU:							
Piopolis, undrained	98	Moderately suited		Moderately suited		Poorly suited	
		Wetness	0.50	Wetness	0.50	Wetness	1.00
						Low strength	0.50
Pml:							
Pits, quarry	100	Not rated		Not rated		Not rated	
RptG:							
Rohan	45	Moderately suited		Unsuited		Poorly suited	
		Rock fragments	0.50	Slope	1.00	Slope	1.00
		Slope	0.50	Rock fragments	0.75	Low strength	0.50
Jessietown	36	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50	Low strength	0.50
RywB2:							
Russell	76	Well suited		Well suited		Moderately suited	
						Low strength	0.50
RzfA:							
Ryker, terrace	52	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Muscatatuck, terrace	48	Well suited		Well suited		Moderately suited	
						Low strength	0.50
RzfB2:							
Ryker, terrace	52	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Muscatatuck, terrace	40	Well suited		Well suited		Moderately suited	
						Low strength	0.50

Table 10c.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
RzgA:							
Ryker	45	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Muscatatuck	45	Well suited		Well suited		Moderately suited	
						Low strength	0.50
RzgB2:							
Ryker	50	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Muscatatuck	40	Well suited		Well suited		Moderately suited	
						Low strength	0.50
RzgC2:							
Ryker	50	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
Muscatatuck	35	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
RzhC3:							
Ryker, severely eroded	37	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
Grayford, severely eroded	30	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
Muscatatuck, severely eroded	28	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
SceA:							
Scottsburg	95	Well suited		Well suited		Moderately suited	
						Low strength	0.50
ScfB2:							
Scottsburg	50	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Deputy	40	Well suited		Well suited		Moderately suited	
						Low strength	0.50
SifE:							
Senachwine	90	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
						Slope	0.50
SifG:							
Senachwine	90	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
						Low strength	0.50
SldAW:							
Shoals	90	Well suited		Well suited		Moderately suited	
						Low strength	0.50

Table 10c.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
StaAH:							
Steff	88	Well suited		Well suited		Moderately suited	
						Low strength	0.50
StaAQ:							
Steff	86	Well suited		Well suited		Moderately suited	
						Low strength	0.50
StdAH:							
Stendal	93	Well suited		Well suited		Moderately suited	
						Wetness	0.50
						Low strength	0.50
StdAQ:							
Stendal	88	Well suited		Well suited		Poorly suited	
						Wetness	1.00
						Low strength	0.50
SuoAH:							
Stonelick	100	Well suited		Well suited		Well suited	
ThbD4:							
Trappist, very severely eroded	73	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
ThcD3:							
Trappist, severely eroded	44	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
Rohan, severely eroded	29	Moderately suited		Poorly suited		Moderately suited	
		Rock fragments	0.50	Slope	0.75	Low strength	0.50
				Rock fragments	0.75		
ThdD2:							
Trappist	49	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
Rohan	33	Moderately suited		Poorly suited		Moderately suited	
		Rock fragments	0.50	Slope	0.75	Low strength	0.50
				Rock fragments	0.75		
Uby:							
Udorthents, loamy	100	Not rated		Not rated		Not rated	
UdaB:							
Urban land	46	Not rated		Not rated		Not rated	
Deputy	16	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
Scottsburg	16	Well suited		Well suited		Moderately suited	
						Low strength	0.50

Table 10c.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
UfcB:							
Urban land	49	Not rated		Not rated		Not rated	
Cincinnati	16	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
Nabb	16	Well suited		Well suited		Moderately suited	
						Low strength	0.50
UfdA:							
Urban land	57	Not rated		Not rated		Not rated	
Cobbsfork	17	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Avonburg	16	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Usl:							
Udorthents, rubbish	100	Not rated		Not rated		Not rated	
W:							
Water	100	Not rated		Not rated		Not rated	
WaaAH:							
Wakeland	85	Well suited		Well suited		Poorly suited	
						Wetness	1.00
						Low strength	0.50
WaaAW:							
Wakeland	82	Well suited		Well suited		Poorly suited	
						Wetness	1.00
						Low strength	0.50
WnmA:							
Whitcomb	87	Well suited		Well suited		Moderately suited	
						Low strength	0.50
WokAH:							
Wilbur	88	Well suited		Well suited		Moderately suited	
						Low strength	0.50
WokAW:							
Wilbur	83	Well suited		Well suited		Moderately suited	
						Low strength	0.50
WooAQ:							
Wilhite	96	Well suited		Well suited		Poorly suited	
						Wetness	1.00
						Low strength	0.50
WprAV:							
Wirt	83	Well suited		Well suited		Moderately suited	
						Low strength	0.50
WprAW:							
Wirt	83	Well suited		Well suited		Moderately suited	
						Low strength	0.50

Table 10c.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
WpuAH:							
Wirt----------------	88	Well suited		Well suited		Moderately suited	
						Low strength	0.50
WufB2:							
Williamstown--------	82	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
XabB2:							
Xenia---------------	95	Well suited		Well suited		Moderately suited	
						Low strength	0.50
ZnsB:							
Zenas---------------	80	Well suited		Well suited		Moderately suited	
						Low strength	0.50

Table 10d.--Forestland Management

(Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Potential for seedling mortality: Rating class and limiting features	Potential for seedling mortality: Value
AddA:			
Avonburg	85	High	
		Wetness	1.00
AddB2:			
Avonburg	75	High	
		Wetness	1.00
AzoA:			
Ayrshire	88	High	
		Wetness	1.00
BbhA:			
Bartle	83	High	
		Wetness	1.00
BgeAH:			
Birds	85	High	
		Wetness	1.00
BgeAHU:			
Birds, undrained	90	High	
		Wetness	1.00
BkeB:			
Bloomfield	50	Low	
Alvin	45	Low	
BlbB2:			
Blocher	50	Low	
Jennings	40	Low	
BlcC2:			
Blocher	42	Low	
Jennings	27	Low	
Deputy	25	Low	
BlcC3:			
Blocher, severely eroded	40	Low	
Jennings, severely eroded	31	Low	
Deputy, severely eroded	21	Low	

Table 10d.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Potential for seedling mortality: Rating class and limiting features	Value
BlgC2:			
Blocher	54	Low	
Cincinnati	35	Low	
BlgC3:			
Blocher, severely eroded	45	Low	
Cincinnati, severely eroded	34	High	
		Wetness	1.00
BlkE2:			
Bonnell	40	Low	
Blocher	30	Low	
Hickory	20	Low	
BnjA:			
Bobtown	92	Low	
BnuD3:			
Bonnell, severely eroded	37	Low	
Hickory, severely eroded	31	Low	
Blocher, severely eroded	25	Low	
BnxE2:			
Bonnell	65	Low	
Grayford	25	Low	
BnxE3:			
Bonnell, severely eroded	65	Low	
Grayford, severely eroded	25	Low	
BobE4:			
Bonnell, very severely eroded	53	Low	
Hickory, very severely eroded	36	Low	
BodAQ:			
Bonnie	85	High	
		Wetness	1.00
CcaG:			
Caneyville	55	Low	
Rock outcrop	19	Not rated	

Table 10d.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Potential for seedling mortality: Rating class and limiting features	Value
CcbC2:			
Caneyville	45	Low	
Zenas	40	Low	
CcgD2:			
Caneyville	45	Low	
Grayford	45	Low	
CcgD3:			
Caneyville, severely eroded	45	Low	
Grayford, severely eroded	45	Low	
CldB2:			
Cincinnati	45	Low	
Blocher	45	Low	
ClfA:			
Cobbsfork	85	High	
		Wetness	1.00
CwaAQ:			
Cuba	92	Low	
CxdA:			
Cyclone	90	High	
		Wetness	1.00
DfnA:			
Dubois	85	High	
		Wetness	1.00
DfnB2:			
Dubois	77	High	
		Wetness	1.00
DtwC2:			
Deputy	75	Low	
DtzC3:			
Deputy, severely eroded	45	Low	
Trappist, severely eroded	30	Low	
EepAQ:			
Elkinsville	90	Low	
EesB2:			
Elkinsville	52	Low	
Millstone	43	Low	

Table 10d.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Potential for seedling mortality: Rating class and limiting features	Value
FdbA:			
Fincastle	84	High	
		Wetness	1.00
FdqB:			
Fincastle	50	High	
		Wetness	1.00
Xenia	40	Low	
GmsF:			
Greybrook	89	Low	
HccB2:			
Haubstadt	84	Low	
HcgAH:			
Haymond	85	Low	
HcgAW:			
Haymond	82	Low	
HcpAP:			
Haymond, frequently ponded, depression	86	Low	
HeeG:			
Hickory	87	Low	
HizE2:			
Hickory	55	Low	
Grayford	35	Low	
HizE3:			
Hickory, severely eroded	55	Low	
Grayford, severely eroded	35	Low	
HleAW:			
Holton	85	High	
		Wetness	1.00
MhyB2:			
Medora	88	Low	
MhyC3:			
Medora, severely eroded	75	High	
		Wetness	1.00
MmoC3:			
Miami, severely eroded	97	Low	
MmoD3:			
Miami, severely eroded	97	Low	

Table 10d.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Potential for seedling mortality: Rating class and limiting features	Value
MnpC2:			
Miami	95	Low	
MnpD2:			
Miami	95	Low	
NaaA:			
Nabb	85	Low	
NaaB2:			
Nabb	78	Low	
OfaAW:			
Oldenburg	85	Low	
OmkC2:			
Otwell	72	Low	
OmkC3:			
Otwell, severely eroded	72	Low	
Omz:			
Orthents	100	Not rated	
PcrA:			
Pekin	90	Low	
PcrB2:			
Pekin	85	Low	
PcrC2:			
Pekin, eroded	72	Low	
PhaA:			
Peoga	83	High	
		Wetness	1.00
PlpAH:			
Piopolis	97	High	
		Wetness	1.00
PlpAHU:			
Piopolis, undrained	98	High	
		Wetness	1.00
Pml:			
Pits, quarry	100	Not rated	
RptG:			
Rohan	45	Low	
Jessietown	36	Low	
RywB2:			
Russell	76	Low	

Table 10d.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Potential for seedling mortality: Rating class and limiting features	Value
RzfA:			
Ryker, terrace	52	Low	
Muscatatuck, terrace	48	Low	
RzfB2:			
Ryker, terrace	52	Low	
Muscatatuck, terrace	40	Low	
RzgA:			
Ryker	45	Low	
Muscatatuck	45	Low	
RzgB2:			
Ryker	50	Low	
Muscatatuck	40	Low	
RzgC2:			
Ryker	50	Low	
Muscatatuck	35	Low	
RzhC3:			
Ryker, severely eroded	37	Low	
Grayford, severely eroded	30	Low	
Muscatatuck, severely eroded	28	Low	
SceA:			
Scottsburg	95	Low	
ScfB2:			
Scottsburg	50	Low	
Deputy	40	Low	
SifE:			
Senachwine	90	Low	
SifG:			
Senachwine	90	Low	
SldAW:			
Shoals	90	High	
		Wetness	1.00
StaAH:			
Steff	88	Low	
StaAQ:			
Steff	86	Low	

Table 10d.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Potential for seedling mortality: Rating class and limiting features	Value
StdAH:			
Stendal	93	High	
		Wetness	1.00
StdAQ:			
Stendal	88	High	
		Wetness	1.00
SuoAH:			
Stonelick	100	Moderate	
		Carbonate content	0.50
		Soil reaction	0.50
ThbD4:			
Trappist, very severely eroded	73	Low	
ThcD3:			
Trappist, severely eroded	44	Low	
Rohan, severely eroded	29	Low	
ThdD2:			
Trappist	49	Low	
Rohan	33	Low	
Uby:			
Udorthents, loamy	100	Not rated	
UdaB:			
Urban land	46	Not rated	
Deputy	16	Low	
Scottsburg	16	Low	
UfcB:			
Urban land	49	Not rated	
Cincinnati	16	Low	
Nabb	16	Low	
UfdA:			
Urban land	57	Not rated	
Cobbsfork	17	High	
		Wetness	1.00
Avonburg	16	High	
		Wetness	1.00
Usl:			
Udorthents, rubbish	100	Not rated	
W:			
Water	100	Not rated	

Table 10d.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Potential for seedling mortality: Rating class and limiting features	Value
WaaAH:			
Wakeland------------	85	High	
		Wetness	1.00
WaaAW:			
Wakeland------------	82	High	
		Wetness	1.00
WnmA:			
Whitcomb------------	87	High	
		Wetness	1.00
WokAH:			
Wilbur--------------	88	Low	
WokAW:			
Wilbur--------------	83	Low	
WooAQ:			
Wilhite-------------	96	High	
		Wetness	1.00
WprAV:			
Wirt----------------	83	Low	
WprAW:			
Wirt----------------	83	Low	
WpuAH:			
Wirt----------------	88	Low	
WufB2:			
Williamstown--------	82	Low	
XabB2:			
Xenia---------------	95	Low	
ZnsB:			
Zenas---------------	80	Low	

Table 11a.--Recreational Development

(Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
AddA:							
Avonburg	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.88	Slow water movement	0.88	Slow water movement	0.88
AddB2:							
Avonburg	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.88	Slow water movement	0.88	Slow water movement	0.88
						Slope	0.15
AzoA:							
Ayrshire	88	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
BbhA:							
Bartle	83	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.88	Slow water movement	0.88	Slow water movement	0.88
BgeAH:							
Birds	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Ponding	1.00	Flooding	0.40	Ponding	1.00
BgeAHU:							
Birds, undrained	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Ponding	1.00	Flooding	0.40	Ponding	1.00
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
BkeB:							
Bloomfield	50	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.98	Too sandy	0.98	Too sandy	0.98
						Slope	0.55
Alvin	45	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.92	Too sandy	0.92	Too sandy	0.92
						Slope	0.55

Table 11a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
BlbB2:							
Blocher	50	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
						Slope	0.55
Jennings	40	Not limited		Not limited		Somewhat limited	
						Slope	0.55
BlcC2:							
Blocher	42	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.96	Slow water movement	0.96	Slope	1.00
		Slope	0.04	Slope	0.04	Slow water movement	0.96
Jennings	27	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Deputy	25	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.98	Slow water movement	0.96	Slope	1.00
		Slow water movement	0.96	Depth to saturated zone	0.75	Depth to saturated zone	0.98
		Slope	0.04	Slope	0.04	Slow water movement	0.96
BlcC3:							
Blocher, severely eroded	40	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.96	Slow water movement	0.96	Slope	1.00
		Slope	0.04	Slope	0.04	Slow water movement	0.96
Jennings, severely eroded	31	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Slope	1.00
		Slope	0.04	Slope	0.04	Depth to saturated zone	0.98
Deputy, severely eroded	21	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.98	Slow water movement	0.96	Slope	1.00
		Slow water movement	0.96	Depth to saturated zone	0.75	Depth to saturated zone	0.98
		Slope	0.04	Slope	0.04	Slow water movement	0.96
BlgC2:							
Blocher	54	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.96	Slow water movement	0.96	Slope	1.00
		Slope	0.04	Slope	0.04	Slow water movement	0.96
Cincinnati	35	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.39	Depth to saturated zone	0.19	Slope	1.00
		Slope	0.04	Slope	0.04	Depth to saturated zone	0.39

Table 11a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
BlgC3:							
Blocher, severely eroded	45	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.96	Slow water movement	0.96	Slope	1.00
		Slope	0.04	Slope	0.04	Slow water movement	0.96
Cincinnati, severely eroded	34	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.96	Depth to saturated zone	1.00
		Slope	0.04	Slope	0.04	Slope	1.00
BlkE2:							
Bonnell	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.04	Slow water movement	0.04	Slow water movement	0.04
Blocher	30	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.96	Slope	0.96	Slope	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
Hickory	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
BnjA:							
Bobtown	92	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.88	Depth to saturated zone	0.56	Depth to saturated zone	0.88
		Too sandy	0.24	Too sandy	0.24	Too sandy	0.24
BnuD3:							
Bonnell, severely eroded	37	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
Hickory, severely eroded	31	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Blocher, severely eroded	25	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.96	Slope	0.96	Slope	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
BnxE2:							
Bonnell	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.04	Slow water movement	0.04	Slow water movement	0.04
Grayford	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00

Table 11a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
BnxE3:							
Bonnell, severely eroded	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
Grayford, severely eroded	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
BobE4:							
Bonnell, very severely eroded	53	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.43	Slow water movement	0.43	Slow water movement	0.43
Hickory, very severely eroded	36	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
BodAQ:							
Bonnie	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Slow water movement	0.21	Slow water movement	0.21
		Slow water movement	0.21				
CcaG:							
Caneyville	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
						Depth to bedrock	0.20
Rock outcrop	19	Not rated		Not rated		Not rated	
CcbC2:							
Caneyville	45	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.21	Slow water movement	0.21	Slope	1.00
		Slope	0.04	Slope	0.04	Slow water movement	0.21
						Depth to bedrock	0.06
Zenas	40	Not limited		Not limited		Somewhat limited	
						Slope	0.88
CcgD2:							
Caneyville	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
						Depth to bedrock	0.20
Grayford	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00

Table 11a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
CcgD3:							
Caneyville, severely eroded	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.21	Slow water movement	0.21	Depth to bedrock	0.90
						Slow water movement	0.21
Grayford, severely eroded	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
CldB2:							
Cincinnati	45	Not limited		Not limited		Somewhat limited	
						Slope	0.55
Blocher	45	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
						Slope	0.55
ClfA:							
Cobbsfork	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Slow water movement	0.88	Slow water movement	0.88	Slow water movement	0.88
CwaAQ:							
Cuba	92	Very limited		Not limited		Not limited	
		Flooding	1.00				
CxdA:							
Cyclone	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
DfnA:							
Dubois	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
DfnB2:							
Dubois	77	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Slope	0.55
DtwC2:							
Deputy	75	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.98	Slow water movement	0.96	Slope	1.00
		Slow water movement	0.96	Depth to saturated zone	0.75	Depth to saturated zone	0.98
		Slope	0.04	Slope	0.04	Slow water movement	0.96

Table 11a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
DtzC3:							
Deputy, severely eroded	45	Somewhat limited Depth to saturated zone Slow water movement Slope	 0.98 0.96 0.04	Somewhat limited Slow water movement Depth to saturated zone Slope	 0.96 0.75 0.04	Very limited Slope Depth to saturated zone Slow water movement	 1.00 0.98 0.96
Trappist, severely eroded	30	Somewhat limited Slow water movement Slope	 0.96 0.04	Somewhat limited Slow water movement Slope	 0.96 0.04	Very limited Slope Slow water movement Depth to bedrock	 1.00 0.96 0.90
EepAQ:							
Elkinsville	90	Very limited Flooding	 1.00	Not limited		Not limited	
EesB2:							
Elkinsville	52	Not limited		Not limited		Somewhat limited Slope	 0.55
Millstone	43	Not limited		Not limited		Somewhat limited Slope	 0.55
FdbA:							
Fincastle	84	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	 1.00
FdqB:							
Fincastle	50	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone Slope	 1.00 0.15
Xenia	40	Somewhat limited Depth to saturated zone	 0.98	Somewhat limited Depth to saturated zone	 0.75	Somewhat limited Depth to saturated zone Slope	 0.98 0.15
GmsF:							
Greybrook	89	Very limited Slope Slow water movement	 1.00 0.96	Very limited Slope Slow water movement	 1.00 0.96	Very limited Slope Slow water movement	 1.00 0.96
HccB2:							
Haubstadt	84	Somewhat limited Depth to saturated zone	 0.98	Somewhat limited Depth to saturated zone	 0.75	Somewhat limited Depth to saturated zone Slope	 0.98 0.55
HcgAH:							
Haymond	85	Very limited Flooding	 1.00	Somewhat limited Flooding	 0.40	Very limited Flooding	 1.00

Table 11a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
HcgAW:							
Haymond	82	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Flooding	0.60
HcpAP:							
Haymond, frequently ponded, depression	86	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
HeeG:							
Hickory	87	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
HizE2:							
Hickory	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Grayford	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
HizE3:							
Hickory, severely eroded	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Grayford, severely eroded	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
HleAW:							
Holton	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00			Flooding	0.60
MhyB2:							
Medora	88	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.88	Depth to saturated zone	0.56	Depth to saturated zone	0.88
						Slope	0.55
MhyC3:							
Medora, severely eroded	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.04	Slope	0.04	Slope	1.00
MmoC3:							
Miami, severely eroded	97	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.21	Slow water movement	0.21	Slope	1.00
		Slope	0.04	Slope	0.04	Slow water movement	0.21

Table 11a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
MmoD3:							
Miami, severely eroded	97	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
MnpC2:							
Miami	95	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.21	Slow water movement	0.21	Slope	1.00
		Slope	0.04	Slope	0.04	Slow water movement	0.21
MnpD2:							
Miami	95	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
NaaA:							
Nabb	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
NaaB2:							
Nabb	78	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
						Slope	0.55
OfaAW:							
Oldenburg	85	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	0.75	Depth to saturated zone	0.98
		Depth to saturated zone	0.98			Flooding	0.60
OmkC2:							
Otwell	72	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
OmkC3:							
Otwell, severely eroded	72	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Slope	1.00
		Slope	0.04	Slope	0.04	Depth to saturated zone	0.98
Omz:							
Orthents	100	Not rated		Not rated		Not rated	
PcrA:							
Pekin	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Slow water movement	0.88	Depth to saturated zone	0.98
		Slow water movement	0.88	Depth to saturated zone	0.75	Slow water movement	0.88

Table 11a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
PcrB2:							
Pekin	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Slow water movement	0.88	Depth to saturated zone	0.98
		Slow water movement	0.88	Depth to saturated zone	0.75	Slow water movement	0.88
						Slope	0.55
PcrC2:							
Pekin, eroded	72	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.98	Slow water movement	0.88	Slope	1.00
		Slow water movement	0.88	Depth to saturated zone	0.75	Depth to saturated zone	0.98
		Slope	0.04	Slope	0.04	Slow water movement	0.88
PhaA:							
Peoga	83	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Slow water movement	0.88	Slow water movement	0.88	Slow water movement	0.88
PlpAH:							
Piopolis	97	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Ponding	1.00	Slow water movement	0.96	Ponding	1.00
		Slow water movement	0.96	Flooding	0.40	Slow water movement	0.96
PlpAHU:							
Piopolis, undrained	98	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Ponding	1.00	Slow water movement	0.96	Ponding	1.00
		Slow water movement	0.96	Flooding	0.40	Slow water movement	0.96
Pml:							
Pits, quarry	100	Not rated		Not rated		Not rated	
RptG:							
Rohan	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Gravel	0.27	Gravel	0.27	Gravel	1.00
Jessietown	36	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.46
RywB2:							
Russell	76	Not limited		Not limited		Somewhat limited	
						Slope	0.50

Table 11a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
RzfA:							
Ryker, terrace	52	Not limited		Not limited		Not limited	
Muscatatuck, terrace	48	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.88	Slow water movement	0.88	Slow water movement	0.88
RzfB2:							
Ryker, terrace	52	Not limited		Not limited		Somewhat limited	
						Slope	0.55
Muscatatuck, terrace	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.88	Slow water movement	0.88	Slow water movement	0.88
						Slope	0.55
RzgA:							
Ryker	45	Not limited		Not limited		Not limited	
Muscatatuck	45	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.88	Slow water movement	0.88	Slow water movement	0.88
RzgB2:							
Ryker	50	Not limited		Not limited		Somewhat limited	
						Slope	0.55
Muscatatuck	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.88	Slow water movement	0.88	Slow water movement	0.88
						Slope	0.55
RzgC2:							
Ryker	50	Not limited		Not limited		Very limited	
						Slope	1.00
Muscatatuck	35	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.88	Slow water movement	0.88	Slope	1.00
						Slow water movement	0.88
RzhC3:							
Ryker, severely eroded	37	Not limited		Not limited		Very limited	
						Slope	1.00
Grayford, severely eroded	30	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Muscatatuck, severely eroded	28	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.88	Slow water movement	0.88	Slope	1.00
						Slow water movement	0.88

Table 11a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
SceA:							
Scottsburg	95	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Slow water movement	0.88	Depth to saturated zone	0.98
		Slow water movement	0.88	Depth to saturated zone	0.75	Slow water movement	0.88
ScfB2:							
Scottsburg	50	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Slow water movement	0.88	Depth to saturated zone	0.98
		Slow water movement	0.88	Depth to saturated zone	0.75	Slow water movement	0.88
						Slope	0.15
Deputy	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Slow water movement	0.96	Depth to saturated zone	0.98
		Slow water movement	0.96	Depth to saturated zone	0.75	Slow water movement	0.96
						Slope	0.55
SifE:							
Senachwine	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.98	Slow water movement	0.98	Slow water movement	0.98
SifG:							
Senachwine	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.98	Slow water movement	0.98	Slow water movement	0.98
SldAW:							
Shoals	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00			Flooding	0.60
StaAH:							
Steff	88	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Depth to saturated zone	0.75	Flooding	1.00
		Depth to saturated zone	0.98	Flooding	0.40	Depth to saturated zone	0.98
StaAQ:							
Steff	86	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	0.75	Depth to saturated zone	0.98
		Depth to saturated zone	0.98				
StdAH:							
Stendal	93	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	0.40	Flooding	1.00

Table 11a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
StdAQ:							
Stendal	88	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00				
SuoAH:							
Stonelick	100	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.40	Flooding	1.00
ThbD4:							
Trappist, very severely eroded	73	Very limited		Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
		Slope	0.84	Slope	0.84	Slope	1.00
						Depth to bedrock	0.46
ThcD3:							
Trappist, severely eroded	44	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
						Depth to bedrock	0.71
Rohan, severely eroded	29	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Gravel	0.39	Gravel	0.39	Gravel	1.00
ThdD2:							
Trappist	49	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
						Depth to bedrock	0.10
Rohan	33	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Uby:							
Udorthents, loamy	100	Not rated		Not rated		Not rated	
UdaB:							
Urban land	46	Not rated		Not rated		Not rated	
Deputy	16	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.98	Slow water movement	0.96	Slope	1.00
		Slow water movement	0.96	Depth to saturated zone	0.75	Depth to saturated zone	0.98
		Slope	0.04	Slope	0.04	Slow water movement	0.96

Table 11a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
UdaB:							
Scottsburg----------	16	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Slow water movement	0.88	Depth to saturated zone	0.98
		Slow water movement	0.88	Depth to saturated zone	0.75	Slow water movement	0.88
						Slope	0.15
UfcB:							
Urban land----------	49	Not rated		Not rated		Not rated	
Cincinnati----------	16	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Nabb----------------	16	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
						Slope	0.55
UfdA:							
Urban land----------	57	Not rated		Not rated		Not rated	
Cobbsfork-----------	17	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
Avonburg------------	16	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.88	Slow water movement	0.88	Slow water movement	0.88
Usl:							
Udorthents, rubbish	100	Not rated		Not rated		Not rated	
W:							
Water---------------	100	Not rated		Not rated		Not rated	
WaaAH:							
Wakeland------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	0.40	Flooding	1.00
WaaAW:							
Wakeland------------	82	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00			Flooding	0.60
WnmA:							
Whitcomb------------	87	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.88	Slow water movement	0.88	Slow water movement	0.88

Table 11a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
WokAH:							
Wilbur	88	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Depth to saturated zone	0.75	Flooding	1.00
		Depth to saturated zone	0.98	Flooding	0.40	Depth to saturated zone	0.98
WokAW:							
Wilbur	83	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	0.75	Depth to saturated zone	0.98
		Depth to saturated zone	0.98			Flooding	0.60
WooAQ:							
Wilhite	96	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Slow water movement	0.96	Slow water movement	0.96
		Slow water movement	0.96				
WprAV:							
Wirt	83	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.40	Flooding	1.00
WprAW:							
Wirt	83	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Flooding	0.60
WpuAH:							
Wirt	88	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.40	Flooding	1.00
WufB2:							
Williamstown	82	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
		Slow water movement	0.21	Slow water movement	0.21	Slope	0.55
						Slow water movement	0.21
XabB2:							
Xenia	95	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
						Slope	0.55
ZnsB:							
Zenas	80	Not limited		Not limited		Somewhat limited	
						Slope	0.55

Table 11b.--Recreational Development

(Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this this table)

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AddA:							
Avonburg------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
AddB2:							
Avonburg------------	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
AzoA:							
Ayrshire------------	88	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
BbhA:							
Bartle--------------	83	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
BgeAH:							
Birds---------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
BgeAHU:							
Birds, undrained----	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
BkeB:							
Bloomfield----------	50	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.98	Too sandy	0.98	Droughty	0.02
Alvin---------------	45	Somewhat limited		Somewhat limited		Not limited	
		Too sandy	0.92	Too sandy	0.92		
BlbB2:							
Blocher-------------	50	Not limited		Not limited		Not limited	
Jennings------------	40	Not limited		Not limited		Not limited	
BlcC2:							
Blocher-------------	42	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.04
Jennings------------	27	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.04

Table 11b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
BlcC2:							
Deputy	25	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Slope	0.04
BlcC3:							
Blocher, severely eroded	40	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.04
Jennings, severely eroded	31	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Slope	0.04
Deputy, severely eroded	21	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Slope	0.04
BlgC2:							
Blocher	54	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.04
Cincinnati	35	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	0.19
						Slope	0.04
BlgC3:							
Blocher, severely eroded	45	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.04
Cincinnati, severely eroded	34	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	0.96
		Depth to saturated zone	0.92	Depth to saturated zone	0.92	Slope	0.04
BlkE2:							
Bonnell	40	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.32				
Blocher	30	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.96
Hickory	20	Somewhat limited		Not limited		Very limited	
		Slope	0.92			Slope	1.00
BnjA:							
Bobtown	92	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.24	Too sandy	0.24	Depth to saturated zone	0.56
		Depth to saturated zone	0.18	Depth to saturated zone	0.18		

Table 11b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
BnuD3:							
Bonnell, severely eroded	37	Somewhat limited		Not limited		Very limited	
		Slope	0.08			Slope	1.00
Hickory, severely eroded	31	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
Blocher, severely eroded	25	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.96
BnxE2:							
Bonnell	65	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.32				
Grayford	25	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.08				
BnxE3:							
Bonnell, severely eroded	65	Somewhat limited		Not limited		Very limited	
		Slope	0.32			Slope	1.00
Grayford, severely eroded	25	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.08				
BobE4:							
Bonnell, very severely eroded	53	Somewhat limited		Not limited		Very limited	
		Slope	0.92			Slope	1.00
Hickory, very severely eroded	36	Somewhat limited		Not limited		Very limited	
		Slope	0.92			Slope	1.00
BodAQ:							
Bonnie	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
CcaG:							
Caneyville	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.20
Rock outcrop	19	Not rated		Not rated		Not rated	
CcbC2:							
Caneyville	45	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Depth to bedrock	0.06
						Slope	0.04
Zenas	40	Not limited		Not limited		Not limited	

Table 11b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
CcgD2:							
Caneyville----------	45	Somewhat limited		Not limited		Very limited	
		Slope	0.32			Slope	1.00
						Depth to bedrock	0.20
Grayford------------	45	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.08				
CcgD3:							
Caneyville, severely eroded-------------	45	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.32			Depth to bedrock	0.90
						Droughty	0.47
						Large stones	0.01
Grayford, severely eroded-------------	45	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.02				
CldB2:							
Cincinnati----------	45	Not limited		Not limited		Not limited	
Blocher-------------	45	Not limited		Not limited		Not limited	
ClfA:							
Cobbsfork-----------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
CwaAQ:							
Cuba----------------	92	Not limited		Not limited		Not limited	
CxdA:							
Cyclone-------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
DfnA:							
Dubois--------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
DfnB2:							
Dubois--------------	77	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
DtwC2:							
Deputy--------------	75	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Slope	0.04

Table 11b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
DtzC3:							
Deputy, severely eroded	45	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Slope	0.04
Trappist, severely eroded	30	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Depth to bedrock	0.90
						Slope	0.04
						Droughty	0.03
EepAQ:							
Elkinsville	90	Not limited		Not limited		Not limited	
EesB2:							
Elkinsville	52	Not limited		Not limited		Not limited	
Millstone	43	Not limited		Not limited		Not limited	
FdbA:							
Fincastle	84	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
FdqB:							
Fincastle	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Xenia	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
GmsF:							
Greybrook	89	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	1.00				
HccB2:							
Haubstadt	84	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
HcgAH:							
Haymond	85	Somewhat limited		Somewhat limited		Very limited	
		Flooding	0.40	Flooding	0.40	Flooding	1.00
HcgAW:							
Haymond	82	Not limited		Not limited		Somewhat limited	
						Flooding	0.60
HcpAP:							
Haymond, frequently ponded, depression	86	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00

Table 11b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Paths and trails: Value	Off-road motorcycle trails: Rating class and limiting features	Off-road motorcycle trails: Value	Golf fairways: Rating class and limiting features	Golf fairways: Value
HeeG:							
Hickory	87	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
HizE2:							
Hickory	55	Somewhat limited		Not limited		Very limited	
		Slope	0.92			Slope	1.00
Grayford	35	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.08				
HizE3:							
Hickory, severely eroded	55	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
Grayford, severely eroded	35	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.08				
HleAW:							
Holton	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Flooding	0.60
MhyB2:							
Medora	88	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.18	Depth to saturated zone	0.18	Depth to saturated zone	0.56
MhyC3:							
Medora, severely eroded	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Water erosion	1.00	Water erosion	1.00	Slope	0.04
MmoC3:							
Miami, severely eroded	97	Not limited		Not limited		Somewhat limited	
						Slope	0.04
MmoD3:							
Miami, severely eroded	97	Somewhat limited		Not limited		Very limited	
		Slope	0.01			Slope	1.00
MnpC2:							
Miami	95	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.04
MnpD2:							
Miami	95	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.01				

Table 11b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
NaaA:							
Nabb	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
NaaB2:							
Nabb	78	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
OfaAW:							
Oldenburg	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
						Flooding	0.60
OmkC2:							
Otwell	72	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.04
OmkC3:							
Otwell, severely eroded	72	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Slope	0.04
Omz:							
Orthents	100	Not rated		Not rated		Not rated	
PcrA:							
Pekin	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
PcrB2:							
Pekin	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
PcrC2:							
Pekin, eroded	72	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Slope	0.04
PhaA:							
Peoga	83	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
PlpAH:							
Piopolis	97	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00

Table 11b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
PlpAHU:							
Piopolis, undrained	98	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
Pml:							
Pits, quarry	100	Not rated		Not rated		Not rated	
RptG:							
Rohan	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Droughty	1.00
						Depth to bedrock	1.00
						Gravel	0.27
						Large stones	0.01
Jessietown	36	Very limited		Very limited		Very limited	
		Slope	1.00	Water erosion	1.00	Slope	1.00
		Water erosion	1.00	Slope	0.96	Depth to bedrock	0.46
RywB2:							
Russell	76	Not limited		Not limited		Not limited	
RzfA:							
Ryker, terrace	52	Not limited		Not limited		Not limited	
Muscatatuck, terrace	48	Not limited		Not limited		Not limited	
RzfB2:							
Ryker, terrace	52	Not limited		Not limited		Not limited	
Muscatatuck, terrace	40	Not limited		Not limited		Not limited	
RzgA:							
Ryker	45	Not limited		Not limited		Not limited	
Muscatatuck	45	Not limited		Not limited		Not limited	
RzgB2:							
Ryker	50	Not limited		Not limited		Not limited	
Muscatatuck	40	Not limited		Not limited		Not limited	
RzgC2:							
Ryker	50	Not limited		Not limited		Not limited	
Muscatatuck	35	Not limited		Not limited		Not limited	
RzhC3:							
Ryker, severely eroded	37	Not limited		Not limited		Not limited	
Grayford, severely eroded	30	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.04
Muscatatuck, severely eroded	28	Not limited		Not limited		Not limited	

Table 11b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Paths and trails: Value	Off-road motorcycle trails: Rating class and limiting features	Off-road motorcycle trails: Value	Golf fairways: Rating class and limiting features	Golf fairways: Value
SceA:							
Scottsburg----------	95	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
ScfB2:							
Scottsburg----------	50	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
Deputy--------------	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
SifE:							
Senachwine----------	90	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.50				
SifG:							
Senachwine----------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Water erosion	1.00	Slope	1.00
		Water erosion	1.00	Slope	1.00		
SldAW:							
Shoals--------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Flooding	0.60
StaAH:							
Steff---------------	88	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Flooding	1.00
						Depth to saturated zone	0.75
		Flooding	0.40	Flooding	0.40		
StaAQ:							
Steff---------------	86	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
StdAH:							
Stendal-------------	93	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
						Depth to saturated zone	1.00
		Flooding	0.40	Flooding	0.40		
StdAQ:							
Stendal-------------	88	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
ThbD4:							
Trappist, very severely eroded----	73	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.84
						Depth to bedrock	0.46
						Droughty	0.43

Table 11b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
ThcD3:							
Trappist, severely eroded	44	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.01			Depth to bedrock	0.71
Rohan, severely eroded	29	Somewhat limited		Not limited		Very limited	
		Slope	0.32			Droughty	1.00
						Depth to bedrock	1.00
						Slope	1.00
						Gravel	0.39
						Large stones	0.01
ThdD2:							
Trappist	49	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.01			Depth to bedrock	0.10
Rohan	33	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Droughty	1.00
		Slope	0.32			Depth to bedrock	1.00
						Slope	1.00
Uby:							
Udorthents, loamy	100	Not rated		Not rated		Not rated	
UdaB:							
Urban land	46	Not rated		Not rated		Not rated	
Deputy	16	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Slope	0.04
Scottsburg	16	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
UfcB:							
Urban land	49	Not rated		Not rated		Not rated	
Cincinnati	16	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.04
Nabb	16	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
UfdA:							
Urban land	57	Not rated		Not rated		Not rated	
Cobbsfork	17	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
Avonburg	16	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 11b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
Usl:							
Udorthents, rubbish	100	Not rated		Not rated		Not rated	
W:							
Water	100	Not rated		Not rated		Not rated	
WaaAH:							
Wakeland	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
WaaAW:							
Wakeland	82	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Flooding	0.60
WnmA:							
Whitcomb	87	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
WokAH:							
Wilbur	88	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	0.75
WokAW:							
Wilbur	83	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
						Flooding	0.60
WooAQ:							
Wilhite	96	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
WprAV:							
Wirt	83	Somewhat limited		Somewhat limited		Very limited	
		Flooding	0.40	Flooding	0.40	Flooding	1.00
WprAW:							
Wirt	83	Not limited		Not limited		Somewhat limited	
						Flooding	0.60
WpuAH:							
Wirt	88	Somewhat limited		Somewhat limited		Very limited	
		Flooding	0.40	Flooding	0.40	Flooding	1.00
WufB2:							
Williamstown	82	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75

Table 11b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Paths and trails: Value	Off-road motorcycle trails: Rating class and limiting features	Off-road motorcycle trails: Value	Golf fairways: Rating class and limiting features	Golf fairways: Value
XabB2:							
Xenia	95	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
ZnsB:							
Zenas	80	Not limited		Not limited		Not limited	

Table 12.--Wildlife Habitat

(See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable)

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
AddA:										
Avonburg	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
AddB2:										
Avonburg	Fair	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
AzoA:										
Ayrshire	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
BbhA:										
Bartle	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
BgeAH:										
Birds	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
BgeAHU:										
Birds, undrained	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
BkeB:										
Bloomfield	Poor	Fair	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Alvin	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
BlbB2:										
Blocher	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Jennings	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
BlcC2:										
Blocher	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Jennings	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Deputy	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
BlcC3:										
Blocher, severely eroded	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Jennings, severely eroded	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Deputy, severely eroded	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.

Table 12.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
BlgC2:										
Blocher-----------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Cincinnati--------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
BlgC3:										
Blocher, severely eroded-----------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Cincinnati, severely eroded--	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
BlkE2:										
Bonnell-----------	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Blocher-----------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Hickory-----------	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
BnjA:										
Bobtown-----------	Good	Fair	Good	Good	Good	Poor	Poor	Fair	Good	Poor.
BnuD3:										
Bonnell, severely eroded-----------	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Hickory, severely eroded-----------	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Blocher, severely eroded-----------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
BnxE2:										
Bonnell-----------	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Grayford----------	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
BnxE3:										
Bonnell, severely eroded-----------	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Grayford, severely eroded-----------	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.

Table 12.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
BobE4:										
Bonnell, very severely eroded	Very poor.	Very poor.	Poor	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
Hickory, very severely eroded	Very poor.	Very poor.	Poor	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
BodAQ:										
Bonnie	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
CcaG:										
Caneyville	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Rock outcrop.										
CcbC2:										
Caneyville	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Zenas	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
CcgD2:										
Caneyville	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Grayford	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
CcgD3:										
Caneyville, severely eroded	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Grayford, severely eroded	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
CldB2:										
Cincinnati	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Blocher	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
ClfA:										
Cobbsfork	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
CwaAQ:										
Cuba	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
CxdA:										
Cyclone	Fair	Fair	Fair	Good	Good	Good	Good	Fair	Fair	Good.
DfnA:										
Dubois	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.

Table 12.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
DfnB2:										
Dubois	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
DtwC2:										
Deputy	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
DtzC3:										
Deputy, severely eroded	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Trappist, severely eroded	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
EepAQ:										
Elkinsville	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
EesB2:										
Elkinsville	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Millstone	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
FdbA:										
Fincastle	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
FdqB:										
Fincastle	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Fair.
Xenia	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
GmsF:										
Greybrook	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
HccB2:										
Haubstadt	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
HcgAH:										
Haymond	Poor	Fair	Fair	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
HcgAW:										
Haymond	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
HcpAP:										
Haymond, frequently ponded, depression	Poor	Fair	Fair	Good	Good	Poor	Very poor.	Fair	Good	Very poor.

Table 12.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
HeeG:										
Hickory-----------	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
HizE2:										
Hickory-----------	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Grayford----------	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
HizE3:										
Hickory, severely eroded-----------	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Grayford, severely eroded-----------	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
HleAW:										
Holton------------	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
MhyB2:										
Medora------------	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
MhyC3:										
Medora, severely eroded-----------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
MmoC3:										
Miami, severely eroded-----------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
MmoD3:										
Miami, severely eroded-----------	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
MnpC2:										
Miami-------------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
MnpD2:										
Miami-------------	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
NaaA:										
Nabb--------------	Fair	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
NaaB2:										
Nabb--------------	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
OfaAW:										
Oldenburg---------	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.

Table 12.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
OmkC2:										
Otwell	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
OmkC3:										
Otwell, severely eroded	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Omz.										
Orthents										
PcrA:										
Pekin	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
PcrB2:										
Pekin	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
PcrC2:										
Pekin, eroded	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
PhaA:										
Peoga	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
PlpAH:										
Piopolis	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
PlpAHU:										
Piopolis, undrained	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
Pml.										
Pits, quarry										
RptG:										
Rohan	Very poor.	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Poor	Very poor.
Jessietown	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
RywB2:										
Russell	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
RzfA:										
Ryker, terrace	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Muscatatuck, terrace	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
RzfB2:										
Ryker, terrace	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Muscatatuck, terrace	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.

Table 12.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
RzgA:										
Ryker	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Muscatatuck	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
RzgB2:										
Ryker	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Muscatatuck	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
RzgC2:										
Ryker	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Muscatatuck	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
RzhC3:										
Ryker, severely eroded	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Grayford, severely eroded	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Muscatatuck, severely eroded	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
SceA:										
Scottsburg	Good	Good	Good	Fair	Good	Poor	Very poor.	Good	Good	Very poor.
ScfB2:										
Scottsburg	Good	Good	Good	Fair	Good	Poor	Very poor.	Good	Good	Very poor.
Deputy	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
SifE:										
Senachwine	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
SifG:										
Senachwine	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
SldAW:										
Shoals	Fair	Good	Good	Good	Good	Fair	Fair	Fair	Good	Fair.
StaAH:										
Steff	Poor	Fair	Fair	Good	Good	Poor	Poor	Fair	Good	Poor.
StaAQ:										
Steff	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.

Table 12.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
StdAH:										
Stendal	Poor	Fair	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
StdAQ:										
Stendal	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
SuoAH:										
Stonelick	Poor	Fair	Fair	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
ThbD4:										
Trappist, very severely eroded	Very poor.	Very poor.	Poor	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
ThcD3:										
Trappist, severely eroded	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Rohan, severely eroded	Very poor.	Poor	Poor	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Poor	Very poor.
ThdD2:										
Trappist	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Rohan	Very poor.	Poor	Poor	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Poor	Very poor.
Uby.										
Udorthents, loamy										
UdaB:										
Urban land.										
Deputy	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Scottsburg	Good	Good	Good	Fair	Good	Poor	Very poor.	Good	Good	Very poor.
UfcB:										
Urban land.										
Cincinnati	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Nabb	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
UfdA:										
Urban land.										
Cobbsfork	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
Avonburg	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
Usl.										
Udorthents, rubbish										

Table 12.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herba-ceous plants	Hardwood trees	Conif-erous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
W. Water										
WaaAH: Wakeland	Poor	Fair	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
WaaAW: Wakeland	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
WnmA: Whitcomb	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
WokAH: Wilbur	Poor	Fair	Fair	Good	Good	Poor	Poor	Good	Good	Poor.
WokAW: Wilbur	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
WooAQ: Wilhite	Poor	Fair	Poor	Fair	Fair	Good	Good	Poor	Fair	Good.
WprAV: Wirt	Poor	Fair	Fair	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
WprAW: Wirt	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
WpuAH: Wirt	Poor	Fair	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
WufB2: Williamstown	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
XabB2: Xenia	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
ZnsB: Zenas	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.

Table 13a.--Building Site Development

(Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
AddA:							
Avonburg	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50			Shrink-swell	0.50
AddB2:							
Avonburg	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50			Shrink-swell	0.50
AzoA:							
Ayrshire	88	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
BbhA:							
Bartle	83	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
BgeAH:							
Birds	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
BgeAHU:							
Birds, undrained	90	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
BkeB:							
Bloomfield	50	Not limited		Not limited		Somewhat limited	
						Slope	0.01
Alvin	45	Not limited		Not limited		Somewhat limited	
						Slope	0.01
BlbB2:							
Blocher	50	Not limited		Very limited		Somewhat limited	
				Depth to saturated zone	1.00	Slope	0.01
				Shrink-swell	0.50		
Jennings	40	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
						Slope	0.01
				Shrink-swell	0.50		

Table 13a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
BlcC2:							
Blocher	42	Somewhat limited		Very limited		Very limited	
		Slope	0.04	Depth to saturated zone	1.00	Slope	1.00
				Shrink-swell	0.50		
				Slope	0.04		
Jennings	27	Somewhat limited		Very limited		Very limited	
		Shrink-swell	0.50	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.04			Shrink-swell	0.50
				Shrink-swell	0.50		
				Slope	0.04		
Deputy	25	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Slope	1.00
						Depth to saturated zone	0.98
		Shrink-swell	0.50	Shrink-swell	0.50		
		Slope	0.04	Slope	0.04	Shrink-swell	0.50
BlcC3:							
Blocher, severely eroded	40	Somewhat limited		Very limited		Very limited	
		Shrink-swell	0.50	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.04			Shrink-swell	0.50
				Shrink-swell	0.50		
				Slope	0.04		
Jennings, severely eroded	31	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Slope	1.00
						Depth to saturated zone	0.98
		Slope	0.04	Shrink-swell	0.50		
				Slope	0.04		
Deputy, severely eroded	21	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Slope	1.00
						Depth to saturated zone	0.98
		Shrink-swell	0.50	Shrink-swell	0.50		
		Slope	0.04	Slope	0.04	Shrink-swell	0.50
BlgC2:							
Blocher	54	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Depth to saturated zone	1.00	Slope	1.00
				Shrink-swell	0.50		
				Slope	0.04		
Cincinnati	35	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.39	Depth to saturated zone	1.00	Slope	1.00
						Depth to saturated zone	0.39
		Slope	0.04	Slope	0.04		
BlgC3:							
Blocher, severely eroded	45	Somewhat limited		Very limited		Very limited	
		Shrink-swell	0.50	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.04			Shrink-swell	0.50
				Shrink-swell	0.50		
				Slope	0.04		

Table 13a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
BlgC3:							
Cincinnati, severely eroded	34	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.04	Shrink-swell	0.50	Slope	1.00
				Slope	0.04		
BlkE2:							
Bonnell	40	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Shrink-swell	1.00
Blocher	30	Somewhat limited		Very limited		Very limited	
		Slope	0.96	Depth to saturated zone	1.00	Slope	1.00
		Shrink-swell	0.50	Slope	0.96	Shrink-swell	0.50
				Shrink-swell	0.50		
Hickory	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
BnjA:							
Bobtown	92	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.88	Depth to saturated zone	1.00	Depth to saturated zone	0.88
BnuD3:							
Bonnell, severely eroded	37	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Shrink-swell	1.00
Hickory, severely eroded	31	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50			Shrink-swell	0.50
Blocher, severely eroded	25	Somewhat limited		Very limited		Very limited	
		Slope	0.96	Depth to saturated zone	1.00	Slope	1.00
		Shrink-swell	0.50	Slope	0.96	Shrink-swell	0.50
				Shrink-swell	0.50		
BnxE2:							
Bonnell	65	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Shrink-swell	1.00
Grayford	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
				Depth to hard bedrock	0.26		

Table 13a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
BnxE3:							
Bonnell, severely eroded	65	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Shrink-swell	1.00
Grayford, severely eroded	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
				Depth to hard bedrock	0.50		
BobE4:							
Bonnell, very severely eroded	53	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Shrink-swell	0.50	Shrink-swell	1.00
Hickory, very severely eroded	36	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50			Shrink-swell	0.50
BodAQ:							
Bonnie	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
CcaG:							
Caneyville	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Depth to hard bedrock	0.20	Depth to hard bedrock	1.00	Depth to hard bedrock	0.20
Rock outcrop	19	Not rated		Not rated		Not rated	
CcbC2:							
Caneyville	45	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Depth to hard bedrock	0.06	Depth to hard bedrock	1.00	Slope	1.00
		Slope	0.04	Slope	0.04	Depth to hard bedrock	0.06
Zenas	40	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	1.00	Shrink-swell	0.50
				Depth to hard bedrock	0.61	Slope	0.12
CcgD2:							
Caneyville	45	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	1.00	Depth to hard bedrock	1.00	Shrink-swell	1.00
		Depth to hard bedrock	0.20	Slope	1.00	Depth to hard bedrock	0.20

Table 13a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
CcgD2:							
Grayford	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
				Depth to hard bedrock	0.26		
CcgD3:							
Caneyville, severely eroded	45	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	1.00	Depth to hard bedrock	1.00	Shrink-swell	1.00
		Depth to hard bedrock	0.90	Slope	1.00	Depth to hard bedrock	0.90
Grayford, severely eroded	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
				Depth to hard bedrock	0.50		
CldB2:							
Cincinnati	45	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
						Slope	0.01
Blocher	45	Not limited		Very limited		Somewhat limited	
				Depth to saturated zone	1.00	Slope	0.01
				Shrink-swell	0.50		
ClfA:							
Cobbsfork	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50			Shrink-swell	0.50
CwaAQ:							
Cuba	92	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
CxdA:							
Cyclone	90	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
DfnA:							
Dubois	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50			Shrink-swell	0.50

Table 13a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
DfnB2:							
Dubois	77	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50			Shrink-swell	0.50
						Slope	0.01
DtwC2:							
Deputy	75	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Depth to saturated zone	0.98
		Slope	0.04	Slope	0.04	Shrink-swell	0.50
DtzC3:							
Deputy, severely eroded	45	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Depth to saturated zone	0.98
		Slope	0.04	Slope	0.04	Shrink-swell	0.50
Trappist, severely eroded	30	Somewhat limited		Very limited		Very limited	
		Depth to hard bedrock	0.90	Depth to hard bedrock	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Depth to hard bedrock	0.90
		Slope	0.04	Slope	0.04	Shrink-swell	0.50
EepAQ:							
Elkinsville	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
EesB2:							
Elkinsville	52	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
						Slope	0.01
Millstone	43	Not limited		Not limited		Somewhat limited	
						Slope	0.01
FdbA:							
Fincastle	84	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
FdqB:							
Fincastle	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Xenia	40	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50

Table 13a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
GmsF:							
Greybrook	89	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
HccB2:							
Haubstadt	84	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
		Shrink-swell	0.50			Shrink-swell	0.50
						Slope	0.01
HcgAH:							
Haymond	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
HcgAW:							
Haymond	82	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
HcpAP:							
Haymond, frequently ponded, depression	86	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
HeeG:							
Hickory	87	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
HizE2:							
Hickory	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Grayford	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
				Depth to hard bedrock	0.26		
HizE3:							
Hickory, severely eroded	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50			Shrink-swell	0.50
Grayford, severely eroded	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
				Depth to hard bedrock	0.50		
HleAW:							
Holton	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 13a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
MhyB2:							
Medora--------------	88	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.88	Depth to saturated zone	1.00	Depth to saturated zone	0.88
				Shrink-swell	0.50	Slope	0.01
MhyC3:							
Medora, severely eroded-------------	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.04	Shrink-swell	0.50	Slope	1.00
				Slope	0.04		
MmoC3:							
Miami, severely eroded-------------	97	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.04	Slope	0.04	Shrink-swell	0.50
MmoD3:							
Miami, severely eroded-------------	97	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
MnpC2:							
Miami---------------	95	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.04	Slope	0.04	Shrink-swell	0.50
MnpD2:							
Miami---------------	95	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
NaaA:							
Nabb----------------	85	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
		Shrink-swell	0.50			Shrink-swell	0.50
NaaB2:							
Nabb----------------	78	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
		Shrink-swell	0.50			Shrink-swell	0.50
						Slope	0.01
OfaAW:							
Oldenburg-----------	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98

Table 13a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
OmkC2:							
Otwell	72	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.04	Shrink-swell	0.50	Shrink-swell	0.50
				Slope	0.04		
OmkC3:							
Otwell, severely eroded	72	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Depth to saturated zone	0.98
		Slope	0.04	Slope	0.04	Shrink-swell	0.50
Omz:							
Orthents	100	Not rated		Not rated		Not rated	
PcrA:							
Pekin	90	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
PcrB2:							
Pekin	85	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
						Slope	0.01
PcrC2:							
Pekin, eroded	72	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.04	Slope	0.04	Depth to saturated zone	0.98
PhaA:							
Peoga	83	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
PlpAH:							
Piopolis	97	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
PlpAHU:							
Piopolis, undrained	98	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Pml:							
Pits, quarry	100	Not rated		Not rated		Not rated	

Table 13a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
RptG:							
Rohan	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
Jessietown	36	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.46	Depth to hard bedrock	1.00	Depth to hard bedrock	0.46
RywB2:							
Russell	76	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
				Depth to saturated zone	0.24		
RzfA:							
Ryker, terrace	52	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Muscatatuck, terrace	48	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
				Shrink-swell	0.50		
RzfB2:							
Ryker, terrace	52	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
						Slope	0.01
Muscatatuck, terrace	40	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
						Slope	0.01
				Shrink-swell	0.50		
RzgA:							
Ryker	45	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Muscatatuck	45	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
				Shrink-swell	0.50		
RzgB2:							
Ryker	50	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
						Slope	0.01
Muscatatuck	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
						Slope	0.01
				Shrink-swell	0.50		
RzgC2:							
Ryker	50	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	0.88
						Shrink-swell	0.50

Table 13a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
RzgC2:							
Muscatatuck	35	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	1.00	Slope	0.88
				Shrink-swell	0.50	Shrink-swell	0.50
RzhC3:							
Ryker, severely eroded	37	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	0.88
						Shrink-swell	0.50
Grayford, severely eroded	30	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
		Slope	0.04	Depth to hard bedrock	0.26	Shrink-swell	0.50
				Slope	0.04		
Muscatatuck, severely eroded	28	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	1.00	Slope	0.88
				Depth to saturated zone	1.00	Shrink-swell	0.50
SceA:							
Scottsburg	95	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
ScfB2:							
Scottsburg	50	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Deputy	40	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
						Slope	0.01
SifE:							
Senachwine	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
SifG:							
Senachwine	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
SldAW:							
Shoals	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 13a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
StaAH:							
Steff	88	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
StaAQ:							
Steff	86	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
StdAH:							
Stendal	93	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
StdAQ:							
Stendal	88	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
SuoAH:							
Stonelick	100	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
ThbD4:							
Trappist, very severely eroded	73	Somewhat limited		Very limited		Very limited	
		Slope	0.84	Depth to hard bedrock	1.00	Slope	1.00
		Shrink-swell	0.50	Slope	0.84	Shrink-swell	0.50
		Depth to hard bedrock	0.46	Shrink-swell	0.50	Depth to hard bedrock	0.46
ThcD3:							
Trappist, severely eroded	44	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.71	Slope	1.00	Depth to hard bedrock	0.71
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Rohan, severely eroded	29	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Depth to hard bedrock	1.00
ThdD2:							
Trappist	49	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Shrink-swell	0.50	Slope	1.00	Shrink-swell	0.50
		Depth to hard bedrock	0.10	Shrink-swell	0.50	Depth to hard bedrock	0.10

Table 13a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
ThdD2:							
Rohan	33	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Depth to hard bedrock	1.00
Uby:							
Udorthents, loamy	100	Not rated		Not rated		Not rated	
UdaB:							
Urban land	46	Not rated		Not rated		Not rated	
Deputy	16	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Depth to saturated zone	0.98
		Slope	0.04	Slope	0.04	Shrink-swell	0.50
Scottsburg	16	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
UfcB:							
Urban land	49	Not rated		Not rated		Not rated	
Cincinnati	16	Somewhat limited		Very limited		Very limited	
		Slope	0.04	Depth to saturated zone	1.00	Slope	1.00
				Slope	0.04		
Nabb	16	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
		Shrink-swell	0.50			Shrink-swell	0.50
						Slope	0.01
UfdA:							
Urban land	57	Not rated		Not rated		Not rated	
Cobbsfork	17	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50			Shrink-swell	0.50
Avonburg	16	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50			Shrink-swell	0.50
Usl:							
Udorthents, rubbish	100	Not rated		Not rated		Not rated	
W:							
Water	100	Not rated		Not rated		Not rated	

Table 13a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
WaaAH:							
Wakeland------------	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
WaaAW:							
Wakeland------------	82	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
WnmA:							
Whitcomb------------	87	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
WokAH:							
Wilbur--------------	88	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
WokAW:							
Wilbur--------------	83	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
WooAQ:							
Wilhite-------------	96	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
WprAV:							
Wirt----------------	83	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
WprAW:							
Wirt----------------	83	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
WpuAH:							
Wirt----------------	88	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
WufB2:							
Williamstown--------	82	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
		Shrink-swell	0.50			Shrink-swell	0.50
						Slope	0.01

Table 13a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
XabB2:							
Xenia	95	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
						Slope	0.01
ZnsB:							
Zenas	80	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	1.00	Shrink-swell	0.50
				Depth to hard bedrock	0.61	Slope	0.01

Table 13b.--Building Site Development

(Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AddA:							
Avonburg	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Unstable excavation walls	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
AddB2:							
Avonburg	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Unstable excavation walls	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
AzoA:							
Ayrshire	88	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Unstable excavation walls	1.00		
BbhA:							
Bartle	83	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Unstable excavation walls	0.10		
		Low strength	1.00				
BgeAH:							
Birds	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Frost action	1.00	Flooding	0.80	Depth to saturated zone	1.00
		Flooding	1.00	Unstable excavation walls	0.10		
		Low strength	1.00				
BgeAHU:							
Birds, undrained	90	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Frost action	1.00	Flooding	0.80	Depth to saturated zone	1.00
		Flooding	1.00	Unstable excavation walls	0.10		
		Low strength	0.22				

Table 13b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
BkeB:							
Bloomfield	50	Not limited		Very limited		Somewhat limited	
				Unstable excavation walls	1.00	Droughty	0.02
Alvin	45	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Unstable excavation walls	1.00		
BlbB2:							
Blocher	50	Very limited		Very limited		Not limited	
		Frost action	1.00	Depth to saturated zone	1.00		
		Low strength	1.00	Unstable excavation walls	0.10		
Jennings	40	Very limited		Very limited		Not limited	
		Frost action	1.00	Depth to saturated zone	1.00		
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50				
BlcC2:							
Blocher	42	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Slope	0.04
		Low strength	1.00	Unstable excavation walls	0.10		
		Slope	0.04	Slope	0.04		
Jennings	27	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Slope	0.04
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50	Slope	0.04		
		Slope	0.04				
Deputy	25	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Too clayey	0.12	Slope	0.04
		Depth to saturated zone	0.75	Unstable excavation walls	0.10		
		Shrink-swell	0.50	Slope	0.04		
		Slope	0.04				
BlcC3:							
Blocher, severely eroded	40	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Slope	0.04
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50	Slope	0.04		
		Slope	0.04				

Table 13b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
BlcC3:							
Jennings, severely eroded	31	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	0.78	Unstable excavation walls	0.10	Slope	0.04
		Depth to saturated zone	0.75	Slope	0.04		
		Slope	0.04	Too clayey	0.02		
Deputy, severely eroded	21	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Too clayey	0.12	Slope	0.04
		Depth to saturated zone	0.75	Unstable excavation walls	0.10		
		Shrink-swell	0.50	Slope	0.04		
		Slope	0.04				
BlgC2:							
Blocher	54	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Slope	0.04
		Low strength	1.00	Unstable excavation walls	0.10		
		Slope	0.04	Slope	0.04		
Cincinnati	35	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.19
		Low strength	1.00	Unstable excavation walls	0.10	Slope	0.04
		Depth to saturated zone	0.19	Slope	0.04		
		Slope	0.04				
BlgC3:							
Blocher, severely eroded	45	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Slope	0.04
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50	Slope	0.04		
		Slope	0.04				
Cincinnati, severely eroded	34	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.96
		Low strength	1.00	Unstable excavation walls	0.10	Slope	0.04
		Depth to saturated zone	0.96	Slope	0.04		
		Slope	0.04				
BlkE2:							
Bonnell	40	Very limited		Very limited		Very limited	
		Frost action	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	1.00	Too clayey	0.02		
		Slope	1.00				

Table 13b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
BlkE2:							
Blocher	30	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Slope	0.96
		Low strength	1.00	Slope	0.96		
		Slope	0.96	Unstable excavation walls	0.10		
		Shrink-swell	0.50				
Hickory	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	1.00	Unstable excavation walls	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
BnjA:							
Bobtown	92	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.56	Depth to saturated zone	1.00	Depth to saturated zone	0.56
		Frost action	0.50	Unstable excavation walls	1.00		
BnuD3:							
Bonnell, severely eroded	37	Very limited		Very limited		Very limited	
		Low strength	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Unstable excavation walls	0.10		
		Slope	1.00	Too clayey	0.01		
		Frost action	0.50				
Hickory, severely eroded	31	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50				
		Frost action	0.50				
Blocher, severely eroded	25	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Slope	0.96
		Low strength	1.00	Slope	0.96		
		Slope	0.96	Unstable excavation walls	0.10		
		Shrink-swell	0.50				
BnxE2:							
Bonnell	65	Very limited		Very limited		Very limited	
		Frost action	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	1.00	Too clayey	0.02		
		Slope	1.00				
Grayford	25	Very limited		Very limited		Very limited	
		Frost action	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Too clayey	0.82		
		Low strength	1.00	Depth to hard bedrock	0.26		
		Shrink-swell	0.50	Unstable excavation walls	0.10		

Table 13b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
BnxE3:							
Bonnell, severely eroded	65	Very limited		Very limited		Very limited	
		Low strength	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Unstable excavation walls	0.10		
		Slope	1.00	Too clayey	0.01		
		Frost action	0.50				
Grayford, severely eroded	25	Very limited		Very limited		Very limited	
		Frost action	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Too clayey	0.82		
		Low strength	1.00	Depth to hard bedrock	0.50		
		Shrink-swell	0.50	Unstable excavation walls	0.10		
BobE4:							
Bonnell, very severely eroded	53	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	1.00	Too clayey	0.01		
		Frost action	0.50				
Hickory, very severely eroded	36	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50				
		Frost action	0.50				
BodAQ:							
Bonnie	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Unstable excavation walls	0.10		
		Low strength	1.00				
		Flooding	0.40				
CcaG:							
Caneyville	55	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Low strength	1.00	Slope	1.00	Depth to bedrock	0.20
		Shrink-swell	1.00	Too clayey	0.76		
		Frost action	0.50	Unstable excavation walls	0.10		
		Depth to hard bedrock	0.20				
Rock outcrop	19	Not rated		Not rated		Not rated	
CcbC2:							
Caneyville	45	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to hard bedrock	1.00	Depth to bedrock	0.06
		Shrink-swell	1.00	Too clayey	0.76	Slope	0.04
		Frost action	0.50	Unstable excavation walls	0.10		
		Depth to hard bedrock	0.06	Slope	0.04		
		Slope	0.04				

Table 13b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
CcbC2:							
Zenas	40	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Too clayey	0.88		
		Low strength	1.00	Depth to hard bedrock	0.61		
		Shrink-swell	0.50	Unstable excavation walls	0.10		
CcgD2:							
Caneyville	45	Very limited		Very limited		Very limited	
		Low strength	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Shrink-swell	1.00	Slope	1.00	Depth to bedrock	0.20
		Slope	1.00	Too clayey	0.76		
		Frost action	0.50	Unstable excavation walls	0.10		
		Depth to hard bedrock	0.20				
Grayford	45	Very limited		Very limited		Very limited	
		Frost action	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Too clayey	0.82		
		Low strength	1.00	Depth to hard bedrock	0.26		
		Shrink-swell	0.50	Unstable excavation walls	0.10		
CcgD3:							
Caneyville, severely eroded	45	Very limited		Very limited		Very limited	
		Low strength	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Shrink-swell	1.00	Slope	1.00	Depth to bedrock	0.90
		Slope	1.00	Too clayey	0.76	Droughty	0.47
		Depth to hard bedrock	0.90	Unstable excavation walls	0.10	Large stones	0.01
		Frost action	0.50				
Grayford, severely eroded	45	Very limited		Very limited		Very limited	
		Frost action	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Too clayey	0.82		
		Low strength	1.00	Depth to hard bedrock	0.50		
		Shrink-swell	0.50	Unstable excavation walls	0.10		
CldB2:							
Cincinnati	45	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Depth to saturated zone	1.00		
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50				
Blocher	45	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Depth to saturated zone	1.00		
		Low strength	1.00	Unstable excavation walls	0.10		

Table 13b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
ClfA:							
Cobbsfork	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Unstable excavation walls	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
CwaAQ:							
Cuba	92	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Unstable excavation walls	0.10		
		Low strength	1.00				
		Flooding	0.40				
CxdA:							
Cyclone	90	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Unstable excavation walls	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
DfnA:							
Dubois	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Unstable excavation walls	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
DfnB2:							
Dubois	77	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Unstable excavation walls	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
DtwC2:							
Deputy	75	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Too clayey	0.12	Slope	0.04
		Depth to saturated zone	0.75	Unstable excavation walls	0.10		
		Shrink-swell	0.50	Slope	0.04		
		Slope	0.04				
DtzC3:							
Deputy, severely eroded	45	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Too clayey	0.12	Slope	0.04
		Depth to saturated zone	0.75	Unstable excavation walls	0.10		
		Shrink-swell	0.50	Slope	0.04		
		Slope	0.04				

Table 13b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
DtzC3:							
Trappist, severely eroded	30	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to hard bedrock	1.00	Depth to bedrock	0.90
		Low strength	1.00	Unstable excavation walls	0.10	Slope	0.04
		Depth to hard bedrock	0.90	Slope	0.04	Droughty	0.03
		Shrink-swell	0.50	Too clayey	0.01		
		Slope	0.04				
EepAQ:							
Elkinsville	90	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50				
		Flooding	0.40				
EesB2:							
Elkinsville	52	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Unstable excavation walls	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
Millstone	43	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Unstable excavation walls	0.10		
FdbA:							
Fincastle	84	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Dense layer	0.50		
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50				
FdqB:							
Fincastle	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Dense layer	0.50		
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50				
Xenia	40	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Dense layer	0.50		
		Depth to saturated zone	0.75	Unstable excavation walls	0.10		
		Shrink-swell	0.50				
GmsF:							
Greybrook	89	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	1.00	Unstable excavation walls	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				

Table 13b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
HccB2:							
Haubstadt	84	Very limited Frost action Low strength Depth to saturated zone Shrink-swell	 1.00 1.00 0.75 0.50	Very limited Depth to saturated zone Unstable excavation walls	 1.00 0.10	Somewhat limited Depth to saturated zone	 0.75
HcgAH:							
Haymond	85	Very limited Frost action Flooding	 1.00 1.00	Somewhat limited Flooding Unstable excavation walls	 0.80 0.10	Very limited Flooding	 1.00
HcgAW:							
Haymond	82	Very limited Frost action Flooding	 1.00 1.00	Somewhat limited Flooding Unstable excavation walls	 0.60 0.10	Somewhat limited Flooding	 0.60
HcpAP:							
Haymond, frequently ponded, depression	86	Very limited Ponding Frost action	 1.00 1.00	Very limited Ponding Unstable excavation walls	 1.00 0.10	Very limited Ponding	 1.00
HeeG:							
Hickory	87	Very limited Slope Low strength Shrink-swell Frost action	 1.00 1.00 0.50 0.50	Very limited Slope Unstable excavation walls	 1.00 0.10	Very limited Slope	 1.00
HizE2:							
Hickory	55	Very limited Slope Frost action Low strength Shrink-swell	 1.00 1.00 1.00 0.50	Very limited Slope Unstable excavation walls	 1.00 0.10	Very limited Slope	 1.00
Grayford	35	Very limited Frost action Slope Low strength Shrink-swell	 1.00 1.00 1.00 0.50	Very limited Slope Too clayey Depth to hard bedrock Unstable excavation walls	 1.00 0.82 0.26 0.10	Very limited Slope	 1.00
HizE3:							
Hickory, severely eroded	55	Very limited Slope Low strength Shrink-swell Frost action	 1.00 1.00 0.50 0.50	Very limited Slope Unstable excavation walls	 1.00 0.10	Very limited Slope	 1.00

Table 13b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
HizE3:							
Grayford, severely eroded	35	Very limited		Very limited		Very limited	
		Frost action	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Too clayey	0.82		
		Low strength	1.00	Depth to hard bedrock	0.50		
		Shrink-swell	0.50				
				Unstable excavation walls	0.10		
HleAW:							
Holton	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Unstable excavation walls	1.00	Flooding	0.60
		Flooding	1.00				
				Flooding	0.60		
MhyB2:							
Medora	88	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.56
		Depth to saturated zone	0.56				
				Unstable excavation walls	0.10		
MhyC3:							
Medora, severely eroded	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Unstable excavation walls	0.10	Slope	0.04
		Slope	0.04				
				Slope	0.04		
MmoC3:							
Miami, severely eroded	97	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Slope	0.04
		Shrink-swell	0.50				
		Frost action	0.50	Dense layer	0.50		
		Slope	0.04	Unstable excavation walls	0.10		
				Slope	0.04		
MmoD3:							
Miami, severely eroded	97	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Depth to saturated zone	1.00		
		Shrink-swell	0.50				
		Frost action	0.50	Dense layer	0.50		
				Unstable excavation walls	0.10		

Table 13b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
MnpC2:							
Miami	95	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Slope	0.04
		Shrink-swell	0.50	Dense layer	0.50		
		Frost action	0.50	Unstable excavation walls	0.10		
		Slope	0.04	Slope	0.04		
MnpD2:							
Miami	95	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Depth to saturated zone	1.00		
		Shrink-swell	0.50	Dense layer	0.50		
		Frost action	0.50	Unstable excavation walls	0.10		
NaaA:							
Nabb	85	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Unstable excavation walls	0.10		
		Depth to saturated zone	0.75				
		Shrink-swell	0.50				
NaaB2:							
Nabb	78	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Unstable excavation walls	0.10		
		Depth to saturated zone	0.75				
		Shrink-swell	0.50				
OfaAW:							
Oldenburg	85	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.75	Unstable excavation walls	1.00	Flooding	0.60
		Frost action	0.50	Flooding	0.60		
OmkC2:							
Otwell	72	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Slope	0.04
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50	Slope	0.04		
		Slope	0.04				
OmkC3:							
Otwell, severely eroded	72	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Unstable excavation walls	0.10	Slope	0.04
		Depth to saturated zone	0.75	Slope	0.04		
		Shrink-swell	0.50				
		Slope	0.04				

Table 13b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
Omz:							
Orthents	100	Not rated		Not rated		Not rated	
PcrA:							
Pekin	90	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Unstable excavation walls	0.10		
		Depth to saturated zone	0.75				
PcrB2:							
Pekin	85	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Unstable excavation walls	0.10		
		Depth to saturated zone	0.75				
PcrC2:							
Pekin, eroded	72	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Unstable excavation walls	0.10	Slope	0.04
		Depth to saturated zone	0.75	Slope	0.04		
		Slope	0.04				
PhaA:							
Peoga	83	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Unstable excavation walls	0.10		
		Low strength	1.00				
PlpAH:							
Piopolis	97	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Frost action	1.00	Flooding	0.80	Depth to saturated zone	1.00
		Flooding	1.00	Unstable excavation walls	0.10		
		Low strength	1.00				
PlpAHU:							
Piopolis, undrained	98	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Frost action	1.00	Flooding	0.80	Depth to saturated zone	1.00
		Flooding	1.00	Unstable excavation walls	0.10		
		Low strength	1.00				
Pml:							
Pits, quarry	100	Not rated		Not rated		Not rated	

Table 13b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
RptG:							
Rohan	45	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Droughty	1.00
		Frost action	0.50	Unstable excavation walls	0.10	Depth to bedrock	1.00
						Gravel	0.27
						Large stones	0.01
Jessietown	36	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Frost action	1.00	Slope	1.00	Depth to bedrock	0.46
		Low strength	1.00	Unstable excavation walls	0.10		
		Depth to hard bedrock	0.46				
RywB2:							
Russell	76	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Dense layer	0.50		
		Low strength	1.00	Depth to saturated zone	0.24		
		Shrink-swell	0.50	Unstable excavation walls	0.10		
RzfA:							
Ryker, terrace	52	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Unstable excavation walls	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
Muscatatuck, terrace	48	Very limited		Very limited		Not limited	
		Frost action	1.00	Depth to saturated zone	1.00		
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50				
RzfB2:							
Ryker, terrace	52	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Unstable excavation walls	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
Muscatatuck, terrace	40	Very limited		Very limited		Not limited	
		Frost action	1.00	Depth to saturated zone	1.00		
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50				
RzgA:							
Ryker	45	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Too clayey	0.88		
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50				
Muscatatuck	45	Very limited		Very limited		Not limited	
		Frost action	1.00	Depth to saturated zone	1.00		
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50				

Table 13b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
RzgB2:							
Ryker	50	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Too clayey	0.88		
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50				
Muscatatuck	40	Very limited		Very limited		Not limited	
		Frost action	1.00	Depth to saturated zone	1.00		
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50				
RzgC2:							
Ryker	50	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Too clayey	0.88		
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50				
Muscatatuck	35	Very limited		Very limited		Not limited	
		Frost action	1.00	Depth to saturated zone	1.00		
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50				
RzhC3:							
Ryker, severely eroded	37	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Too clayey	0.88		
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50				
Grayford, severely eroded	30	Very limited		Somewhat limited		Somewhat limited	
		Frost action	1.00	Too clayey	0.82	Slope	0.04
		Low strength	1.00	Depth to hard bedrock	0.26		
		Shrink-swell	0.50	Unstable excavation walls	0.10		
		Slope	0.04	Slope	0.04		
Muscatatuck, severely eroded	28	Very limited		Very limited		Not limited	
		Frost action	1.00	Depth to saturated zone	1.00		
		Low strength	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50	Too clayey	0.02		
SceA:							
Scottsburg	95	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Too clayey	0.12		
		Depth to saturated zone	0.75	Unstable excavation walls	0.10		
		Shrink-swell	0.50				

Table 13b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
ScfB2:							
Scottsburg	50	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Too clayey	0.12		
		Depth to saturated zone	0.75	Unstable excavation walls	0.10		
		Shrink-swell	0.50				
Deputy	40	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Too clayey	0.12		
		Depth to saturated zone	0.75	Unstable excavation walls	0.10		
		Shrink-swell	0.50				
SifE:							
Senachwine	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	0.78	Unstable excavation walls	0.10		
		Frost action	0.50				
SifG:							
Senachwine	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	0.78	Unstable excavation walls	0.10		
		Frost action	0.50				
SldAW:							
Shoals	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Flooding	0.60	Flooding	0.60
		Flooding	1.00	Unstable excavation walls	0.10		
		Low strength	0.78				
StaAH:							
Steff	88	Very limited		Very limited		Very limited	
		Frost action	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Flooding	0.80	Depth to saturated zone	0.75
		Depth to saturated zone	0.75	Unstable excavation walls	0.10		
StaAQ:							
Steff	86	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Unstable excavation walls	0.10		
		Depth to saturated zone	0.75				
		Flooding	0.40				
StdAH:							
Stendal	93	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Frost action	1.00	Flooding	0.80	Depth to saturated zone	1.00
		Flooding	1.00	Unstable excavation walls	0.10		
		Low strength	1.00				

Table 13b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
StdAQ:							
Stendal	88	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Unstable excavation walls	0.10		
		Low strength	1.00				
		Flooding	0.40				
SuoAH:							
Stonelick	100	Very limited		Very limited		Very limited	
		Flooding	1.00	Unstable excavation walls	1.00	Flooding	1.00
		Frost action	0.50	Flooding	0.80		
ThbD4:							
Trappist, very severely eroded	73	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to hard bedrock	1.00	Slope	0.84
		Low strength	1.00	Slope	0.84	Depth to bedrock	0.46
		Slope	0.84	Too clayey	0.01	Droughty	0.43
		Shrink-swell	0.50				
		Depth to hard bedrock	0.46				
ThcD3:							
Trappist, severely eroded	44	Very limited		Very limited		Very limited	
		Frost action	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Low strength	1.00	Slope	1.00	Depth to bedrock	0.71
		Slope	1.00	Unstable excavation walls	0.10		
		Depth to hard bedrock	0.71	Too clayey	0.01		
		Shrink-swell	0.50				
Rohan, severely eroded	29	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Droughty	1.00
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Frost action	0.50	Unstable excavation walls	0.10	Slope	1.00
						Gravel	0.39
						Large stones	0.01
ThdD2:							
Trappist	49	Very limited		Very limited		Very limited	
		Frost action	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Low strength	1.00	Slope	1.00	Depth to bedrock	0.10
		Slope	1.00	Unstable excavation walls	0.10		
		Shrink-swell	0.50	Too clayey	0.01		
		Depth to hard bedrock	0.10				
Rohan	33	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Droughty	1.00
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Frost action	0.50	Unstable excavation walls	0.10	Slope	1.00

Table 13b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
Uby:							
Udorthents, loamy	100	Not rated		Not rated		Not rated	
UdaB:							
Urban land	46	Not rated		Not rated		Not rated	
Deputy	16	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Too clayey	0.12	Slope	0.04
		Depth to saturated zone	0.75	Unstable excavation walls	0.10		
		Shrink-swell	0.50	Slope	0.04		
		Slope	0.04				
Scottsburg	16	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Too clayey	0.12		
		Depth to saturated zone	0.75	Unstable excavation walls	0.10		
		Shrink-swell	0.50				
UfcB:							
Urban land	49	Not rated		Not rated		Not rated	
Cincinnati	16	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Slope	0.04
		Low strength	1.00	Unstable excavation walls	0.10		
		Slope	0.04	Slope	0.04		
Nabb	16	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Unstable excavation walls	0.10		
		Depth to saturated zone	0.75				
		Shrink-swell	0.50				
UfdA:							
Urban land	57	Not rated		Not rated		Not rated	
Cobbsfork	17	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Unstable excavation walls	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
Avonburg	16	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Unstable excavation walls	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
Usl:							
Udorthents, rubbish	100	Not rated		Not rated		Not rated	

Table 13b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
W:							
Water	100	Not rated		Not rated		Not rated	
WaaAH:							
Wakeland	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Frost action	1.00	Flooding	0.80	Depth to saturated zone	1.00
		Flooding	1.00	Unstable excavation walls	0.10		
WaaAW:							
Wakeland	82	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Flooding	0.60	Flooding	0.60
		Flooding	1.00	Unstable excavation walls	0.10		
WnmA:							
Whitcomb	87	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Unstable excavation walls	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
WokAH:							
Wilbur	88	Very limited		Very limited		Very limited	
		Frost action	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Flooding	0.80	Depth to saturated zone	0.75
		Depth to saturated zone	0.75	Unstable excavation walls	0.10		
WokAW:							
Wilbur	83	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Flooding	1.00	Flooding	0.60	Flooding	0.60
		Depth to saturated zone	0.75	Unstable excavation walls	0.10		
WooAQ:							
Wilhite	96	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Unstable excavation walls	0.10		
		Low strength	1.00	Too clayey	0.08		
		Shrink-swell	1.00				
WprAV:							
Wirt	83	Very limited		Very limited		Very limited	
		Flooding	1.00	Unstable excavation walls	1.00	Flooding	1.00
		Frost action	0.50	Flooding	0.80		

Table 13b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
WprAW:							
Wirt	83	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Unstable excavation walls	1.00	Flooding	0.60
		Frost action	0.50	Flooding	0.60		
WpuAH:							
Wirt	88	Very limited		Very limited		Very limited	
		Frost action	1.00	Unstable excavation walls	1.00	Flooding	1.00
		Flooding	1.00	Flooding	0.80		
WufB2:							
Williamstown	82	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.75	Dense layer	0.50		
		Shrink-swell	0.50	Unstable excavation walls	0.10		
		Frost action	0.50				
XabB2:							
Xenia	95	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Dense layer	0.50		
		Depth to saturated zone	0.75	Unstable excavation walls	0.10		
		Shrink-swell	0.50				
ZnsB:							
Zenas	80	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Too clayey	0.88		
		Low strength	1.00	Depth to hard bedrock	0.61		
		Shrink-swell	0.50	Unstable excavation walls	0.10		

Table 14a.--Sanitary Facilities

(Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
AddA:					
Avonburg	85	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
AddB2:					
Avonburg	75	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
				Slope	0.10
AzoA:					
Ayrshire	88	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
BbhA:					
Bartle	83	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
BgeAH:					
Birds	85	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Ponding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	0.53
BgeAHU:					
Birds, undrained	90	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Ponding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00		
BkeB:					
Bloomfield	50	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Filtering capacity	1.00	Slope	0.35

Table 14a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
BkeB:					
Alvin	45	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.35
BlbB2:					
Blocher	50	Very limited		Somewhat limited	
		Slow water movement	1.00	Seepage	0.53
				Slope	0.35
		Depth to saturated zone	1.00	Depth to saturated zone	0.19
Jennings	40	Very limited		Somewhat limited	
		Slow water movement	1.00	Seepage	0.53
				Slope	0.35
		Depth to saturated zone	1.00	Depth to saturated zone	0.19
BlcC2:					
Blocher	42	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
				Seepage	0.53
		Depth to saturated zone	1.00	Depth to saturated zone	0.19
		Slope	0.04		
Jennings	27	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
				Seepage	0.53
		Depth to saturated zone	1.00	Depth to saturated zone	0.19
		Slope	0.04		
Deputy	25	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Seepage	0.53
		Depth to bedrock	0.63	Depth to soft bedrock	0.18
		Slope	0.04		
BlcC3:					
Blocher, severely eroded	40	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
				Seepage	0.53
		Depth to saturated zone	1.00	Depth to saturated zone	0.19
		Depth to bedrock	0.09		
		Slope	0.04		
Jennings, severely eroded	31	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Seepage	0.53
		Slope	0.04		

Table 14a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
BlcC3:					
Deputy, severely eroded	21	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	0.98	Depth to soft bedrock	0.93
		Slope	0.04	Seepage	0.53
BlgC2:					
Blocher	54	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
				Seepage	0.53
		Depth to saturated zone	1.00	Depth to saturated zone	0.19
		Slope	0.04		
Cincinnati	35	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
				Depth to saturated zone	0.75
		Depth to saturated zone	1.00	Seepage	0.53
		Slope	0.04		
BlgC3:					
Blocher, severely eroded	45	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
				Seepage	0.53
		Depth to saturated zone	1.00	Depth to saturated zone	0.19
		Slope	0.04		
Cincinnati, severely eroded	34	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	1.00
				Seepage	0.53
		Slope	0.04		
BlkE2:					
Bonnell	40	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00		
Blocher	30	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
				Seepage	0.53
		Depth to saturated zone	1.00	Depth to saturated zone	0.19
		Slope	0.96		
Hickory	20	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.46	Seepage	0.53

Table 14a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
BnjA:					
Bobtown	92	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
		Slow water movement	0.46		
BnuD3:					
Bonnell, severely eroded	37	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00		
Hickory, severely eroded	31	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.46	Seepage	0.53
Blocher, severely eroded	25	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Seepage	0.53
		Slope	0.96	Depth to saturated zone	0.19
BnxE2:					
Bonnell	65	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00		
Grayford	25	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.69	Seepage	1.00
		Slow water movement	0.46	Depth to hard bedrock	0.26
BnxE3:					
Bonnell, severely eroded	65	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00		
Grayford, severely eroded	25	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.81	Seepage	1.00
		Slow water movement	0.46	Depth to hard bedrock	0.50

Table 14a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
BobE4:					
Bonnell, very severely eroded	53	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	1.00		
Hickory, very severely eroded	36	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.46	Seepage	0.53
BodAQ:					
Bonnie	85	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	0.53
				Flooding	0.40
		Flooding	0.40		
CcaG:					
Caneyville	55	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Slow water movement	1.00	Slope	1.00
		Depth to bedrock	1.00	Seepage	0.53
Rock outcrop	19	Not rated		Not rated	
CcbC2:					
Caneyville	45	Very limited		Very limited	
		Slow water movement	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slope	0.04	Seepage	1.00
Zenas	40	Somewhat limited		Very limited	
		Depth to bedrock	0.86	Seepage	1.00
		Slow water movement	0.46	Slope	0.68
				Depth to hard bedrock	0.61
CcgD2:					
Caneyville	45	Very limited		Very limited	
		Slow water movement	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slope	1.00	Seepage	0.53
Grayford	45	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.69	Seepage	0.53
		Slow water movement	0.46	Depth to hard bedrock	0.26

Table 14a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
CcgD3:					
Caneyville, severely eroded	45	Very limited		Very limited	
		Slow water movement	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slope	1.00	Seepage	0.53
Grayford, severely eroded	45	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.81	Seepage	0.53
		Slow water movement	0.46	Depth to hard bedrock	0.50
CldB2:					
Cincinnati	45	Very limited		Somewhat limited	
		Slow water movement	1.00	Seepage	0.53
				Slope	0.35
		Depth to saturated zone	1.00	Depth to saturated zone	0.12
Blocher	45	Very limited		Somewhat limited	
		Slow water movement	1.00	Seepage	0.53
				Slope	0.35
		Depth to saturated zone	1.00	Depth to saturated zone	0.19
ClfA:					
Cobbsfork	85	Very limited		Very limited	
		Slow water movement	1.00	Ponding	1.00
				Depth to saturated zone	1.00
		Ponding	1.00		
		Depth to saturated zone	1.00	Seepage	0.53
CwaAQ:					
Cuba	92	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Flooding	0.40
		Slow water movement	0.46		
		Flooding	0.40		
CxdA:					
Cyclone	90	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	0.53
DfnA:					
Dubois	85	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53

Table 14a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
DfnB2:					
Dubois	77	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
				Slope	0.35
DtwC2:					
Deputy	75	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	0.63	Seepage	0.53
		Slope	0.04	Depth to soft bedrock	0.18
DtzC3:					
Deputy, severely eroded	45	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	0.98	Depth to soft bedrock	0.93
		Slope	0.04	Seepage	0.53
Trappist, severely eroded	30	Very limited		Very limited	
		Slow water movement	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slope	0.04		
EepAQ:					
Elkinsville	90	Somewhat limited		Somewhat limited	
		Slow water movement	0.46	Seepage	0.53
		Flooding	0.40	Flooding	0.40
EesB2:					
Elkinsville	52	Somewhat limited		Somewhat limited	
		Slow water movement	0.46	Seepage	0.53
				Slope	0.35
Millstone	43	Somewhat limited		Somewhat limited	
		Slow water movement	0.46	Seepage	0.53
				Slope	0.35
FdbA:					
Fincastle	84	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53

Table 14a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
FdqB:					
Fincastle	50	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
				Slope	0.10
Xenia	40	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
				Slope	0.10
GmsF:					
Greybrook	89	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00	Seepage	0.53
HccB2:					
Haubstadt	84	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
				Slope	0.35
HcgAH:					
Haymond	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Slow water movement	0.46	Seepage	0.53
HcgAW:					
Haymond	82	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Slow water movement	0.46	Seepage	0.53
HcpAP:					
Haymond, frequently ponded, depression	86	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Slow water movement	0.46	Seepage	0.53
HeeG:					
Hickory	87	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.46	Seepage	0.53
HizE2:					
Hickory	55	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.46	Seepage	0.53

Table 14a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
HizE2:					
Grayford	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.69	Seepage	0.53
		Slow water movement	0.46	Depth to hard bedrock	0.26
HizE3:					
Hickory, severely eroded	55	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.46	Seepage	0.53
Grayford, severely eroded	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.81	Seepage	0.53
		Slow water movement	0.46	Depth to hard bedrock	0.50
HleAW:					
Holton	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.46		
MhyB2:					
Medora	88	Very limited		Somewhat limited	
		Slow water movement	1.00	Depth to saturated zone	0.96
		Depth to saturated zone	1.00	Seepage	0.53
				Slope	0.35
MhyC3:					
Medora, severely eroded	75	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	1.00
		Slope	0.04	Seepage	0.53
MmoC3:					
Miami, severely eroded	97	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Seepage	0.53
		Slope	0.04	Depth to saturated zone	0.19

Table 14a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
MmoD3:					
Miami, severely eroded	97	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Seepage	0.53
		Slope	1.00	Depth to saturated zone	0.19
MnpC2:					
Miami	95	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Seepage	0.53
		Slope	0.04	Depth to saturated zone	0.19
MnpD2:					
Miami	95	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Seepage	0.53
		Slope	1.00	Depth to saturated zone	0.19
NaaA:					
Nabb	85	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
NaaB2:					
Nabb	78	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
				Slope	0.35
OfaAW:					
Oldenburg	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.46		
OmkC2:					
Otwell	72	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Seepage	0.28
		Slope	0.04	Depth to saturated zone	0.19

Table 14a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
OmkC3:					
Otwell, severely eroded	72	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.04	Seepage	0.28
Omz:					
Orthents	100	Not rated		Not rated	
PcrA:					
Pekin	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
PcrB2:					
Pekin	85	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
				Slope	0.35
PcrC2:					
Pekin, eroded	72	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.04	Seepage	0.53
PhaA:					
Peoga	83	Very limited		Very limited	
		Slow water movement	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
PlpAH:					
Piopolis	97	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Slow water movement	1.00	Flooding	1.00
		Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
PlpAHU:					
Piopolis, undrained	98	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Slow water movement	1.00	Flooding	1.00
		Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		

Table 14a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Pml:					
Pits, quarry	100	Not rated		Not rated	
RptG:					
Rohan	45	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
				Seepage	0.28
Jessietown	36	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slow water movement	0.46	Seepage	0.53
RywB2:					
Russell	76	Very limited		Somewhat limited	
		Slow water movement	1.00	Seepage	0.53
		Depth to saturated zone	0.65	Slope	0.32
RzfA:					
Ryker, terrace	52	Somewhat limited		Somewhat limited	
		Slow water movement	0.46	Seepage	0.53
Muscatatuck, terrace	48	Very limited		Somewhat limited	
		Slow water movement	1.00	Seepage	0.53
		Depth to saturated zone	1.00	Depth to saturated zone	0.12
RzfB2:					
Ryker, terrace	52	Somewhat limited		Somewhat limited	
		Slow water movement	0.46	Seepage	0.53
				Slope	0.35
Muscatatuck, terrace	40	Very limited		Somewhat limited	
		Slow water movement	1.00	Seepage	0.53
				Slope	0.35
		Depth to saturated zone	1.00	Depth to saturated zone	0.12
RzgA:					
Ryker	45	Somewhat limited		Somewhat limited	
		Slow water movement	0.46	Seepage	0.53
Muscatatuck	45	Very limited		Somewhat limited	
		Slow water movement	1.00	Seepage	0.53
		Depth to saturated zone	1.00	Depth to saturated zone	0.12

Table 14a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
RzgB2:					
Ryker	50	Somewhat limited Slow water movement	 0.46	Somewhat limited Seepage Slope	 0.53 0.35
Muscatatuck	40	Very limited Slow water movement Depth to saturated zone	 1.00 1.00	Somewhat limited Seepage Slope Depth to saturated zone	 0.53 0.35 0.12
RzgC2:					
Ryker	50	Somewhat limited Slow water movement	 0.46	Very limited Slope Seepage	 1.00 0.53
Muscatatuck	35	Very limited Slow water movement Depth to saturated zone	 1.00 1.00	Very limited Slope Seepage Depth to saturated zone	 1.00 0.53 0.12
RzhC3:					
Ryker, severely eroded	37	Somewhat limited Slow water movement	 0.46	Very limited Slope Seepage	 1.00 0.53
Grayford, severely eroded	30	Somewhat limited Depth to bedrock Slow water movement Slope	 0.69 0.46 0.04	Very limited Slope Seepage Depth to hard bedrock	 1.00 1.00 0.26
Muscatatuck, severely eroded	28	Very limited Slow water movement Depth to saturated zone	 1.00 1.00	Very limited Slope Seepage Depth to saturated zone	 1.00 0.53 0.12
SceA:					
Scottsburg	95	Very limited Slow water movement Depth to saturated zone Depth to bedrock	 1.00 1.00 0.22	Very limited Depth to saturated zone Seepage	 1.00 0.53
ScfB2:					
Scottsburg	50	Very limited Slow water movement Depth to saturated zone Depth to bedrock	 1.00 1.00 0.22	Very limited Depth to saturated zone Seepage Slope	 1.00 0.53 0.10

Table 14a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
ScfB2:					
Deputy	40	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
		Depth to bedrock	0.63	Slope	0.35
				Depth to soft bedrock	0.18
SifE:					
Senachwine	90	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00	Seepage	0.53
SifG:					
Senachwine	90	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00	Seepage	0.53
SldAW:					
Shoals	90	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.46		
StaAH:					
Steff	88	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.46		
StaAQ:					
Steff	86	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.46	Seepage	0.98
		Flooding	0.40	Flooding	0.40
StdAH:					
Stendal	93	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.46	Seepage	0.53

Table 14a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
StdAQ:					
Stendal	88	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.46	Seepage	0.53
		Flooding	0.40	Flooding	0.40
SuoAH:					
Stonelick	100	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
ThbD4:					
Trappist, very severely eroded	73	Very limited		Very limited	
		Slow water movement	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slope	0.84		
ThcD3:					
Trappist, severely eroded	44	Very limited		Very limited	
		Slow water movement	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slope	1.00		
Rohan, severely eroded	29	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
ThdD2:					
Trappist	49	Very limited		Very limited	
		Slow water movement	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slope	1.00		
Rohan	33	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
				Seepage	0.28
Uby:					
Udorthents, loamy	100	Not rated		Not rated	
UdaB:					
Urban land	46	Not rated		Not rated	

Table 14a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
UdaB:					
Deputy	16	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	0.63	Seepage	0.53
		Slope	0.04	Depth to soft bedrock	0.18
Scottsburg	16	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
		Depth to bedrock	0.22	Slope	0.10
UfcB:					
Urban land	49	Not rated		Not rated	
Cincinnati	16	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Seepage	0.53
		Slope	0.04	Depth to saturated zone	0.12
Nabb	16	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
				Slope	0.35
UfdA:					
Urban land	57	Not rated		Not rated	
Cobbsfork	17	Very limited		Very limited	
		Slow water movement	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
Avonburg	16	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
Usl:					
Udorthents, rubbish	100	Not rated		Not rated	
W:					
Water	100	Not rated		Not rated	

Table 14a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
WaaAH:					
Wakeland------------	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.46	Seepage	0.53
WaaAW:					
Wakeland------------	82	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.46	Seepage	0.53
WnmA:					
Whitcomb------------	87	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
		Depth to bedrock	0.22		
WokAH:					
Wilbur--------------	88	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.46	Seepage	0.53
WokAW:					
Wilbur--------------	83	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.46	Seepage	0.53
WooAQ:					
Wilhite-------------	96	Very limited		Very limited	
		Slow water movement	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
		Flooding	0.40	Flooding	0.40
WprAV:					
Wirt----------------	83	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.46		

Table 14a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
WprAW:					
Wirt	83	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.46		
WpuAH:					
Wirt	88	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.46		
WufB2:					
Williamstown	82	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
				Slope	0.35
XabB2:					
Xenia	95	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
				Slope	0.35
ZnsB:					
Zenas	80	Somewhat limited		Very limited	
		Depth to bedrock	0.86	Seepage	1.00
		Slow water movement	0.46	Depth to hard bedrock	0.61
				Slope	0.35

Table 14b.--Sanitary Facilities

(Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AddA:							
Avonburg	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Too clayey	0.50
AddB2:							
Avonburg	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
AzoA:							
Ayrshire	88	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.22
BbhA:							
Bartle	83	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
BgeAH:							
Birds	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00		
BgeAHU:							
Birds, undrained	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00		
BkeB:							
Bloomfield	50	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
Alvin	45	Very limited		Very limited		Somewhat limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.52
BlbB2:							
Blocher	50	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Depth to saturated zone	0.19	Too clayey	1.00
		Depth to saturated zone	0.86			Depth to saturated zone	0.47

Table 14b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
BlbB2:							
Jennings------------	40	Very limited		Somewhat limited		Somewhat limited	
		Depth to bedrock	1.00	Depth to saturated zone	0.19	Too clayey	0.50
		Depth to saturated zone	0.86			Depth to saturated zone	0.47
		Too clayey	0.50				
BlcC2:							
Blocher-------------	42	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Depth to saturated zone	0.19	Too clayey	1.00
		Depth to bedrock	1.00	Slope	0.04	Depth to saturated zone	0.47
		Depth to saturated zone	0.86			Slope	0.04
		Slope	0.04				
Jennings------------	27	Very limited		Somewhat limited		Somewhat limited	
		Depth to bedrock	1.00	Depth to saturated zone	0.19	Too clayey	0.50
		Depth to saturated zone	0.86	Slope	0.04	Depth to saturated zone	0.47
		Too clayey	0.50			Slope	0.04
		Slope	0.04				
Deputy--------------	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.18	Depth to saturated zone	1.00
		Too clayey	1.00	Slope	0.04	Depth to bedrock	0.18
		Slope	0.04			Slope	0.04
BlcC3:							
Blocher, severely eroded-------------	40	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Depth to saturated zone	0.19	Too clayey	1.00
		Depth to bedrock	1.00	Slope	0.04	Depth to saturated zone	0.47
		Depth to saturated zone	0.86			Slope	0.04
		Slope	0.04				
BlgC2:							
Blocher-------------	54	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Depth to saturated zone	0.19	Too clayey	1.00
		Depth to saturated zone	0.86	Slope	0.04	Depth to saturated zone	0.47
		Slope	0.04			Slope	0.04
Cincinnati----------	35	Very limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.75	Depth to saturated zone	0.86
		Slope	0.04	Slope	0.04	Slope	0.04
BlgC3:							
Blocher, severely eroded-------------	45	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Depth to saturated zone	0.19	Too clayey	1.00
		Depth to saturated zone	0.86	Slope	0.04	Depth to saturated zone	0.47
		Slope	0.04			Slope	0.04

Table 14b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
BlgC3:							
Cincinnati, severely eroded	34	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50	Slope	0.04	Too clayey	0.50
		Slope	0.04			Slope	0.04
BlkE2:							
Bonnell	40	Very limited		Very limited		Very limited	
		Too clayey	1.00	Slope	1.00	Too clayey	1.00
		Slope	1.00			Slope	1.00
Blocher	30	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Slope	0.96	Too clayey	1.00
		Slope	0.96	Depth to saturated zone	0.19	Slope	0.96
		Depth to saturated zone	0.86			Depth to saturated zone	0.47
Hickory	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	0.50
BnjA:							
Bobtown	92	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.98
		Seepage, bottom layer	1.00	Seepage	1.00		
BnuD3:							
Bonnell, severely eroded	37	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	1.00			Too clayey	1.00
Hickory, severely eroded	31	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Too clayey	0.50
Blocher, severely eroded	25	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Slope	0.96	Too clayey	1.00
		Slope	0.96	Depth to saturated zone	0.19	Slope	0.96
		Depth to saturated zone	0.86			Depth to saturated zone	0.47
BnxE2:							
Bonnell	65	Very limited		Very limited		Very limited	
		Too clayey	1.00	Slope	1.00	Too clayey	1.00
		Slope	1.00			Slope	1.00
Grayford	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to bedrock	0.26	Too clayey	0.50
		Too clayey	0.50			Depth to bedrock	0.26

Table 14b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
BnxE3:							
Bonnell, severely eroded	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	1.00			Too clayey	1.00
Grayford, severely eroded	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to bedrock	0.50	Depth to bedrock	0.50
		Too clayey	0.50			Too clayey	0.50
BobE4:							
Bonnell, very severely eroded	53	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Hickory, very severely eroded	36	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Too clayey	0.50
BodAQ:							
Bonnie	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	0.40	Flooding	0.40		
CcaG:							
Caneyville	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
						Depth to bedrock	1.00
Rock outcrop	19	Not rated		Not rated		Not rated	
CcbC2:							
Caneyville	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00	Seepage	1.00	Hard to compact	1.00
		Slope	0.04	Slope	0.04	Depth to bedrock	1.00
						Slope	0.04
Zenas	40	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	0.61	Hard to compact	1.00
		Too clayey	1.00			Too clayey	1.00
						Depth to bedrock	0.61
CcgD2:							
Caneyville	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00	Slope	1.00	Hard to compact	1.00
		Slope	1.00			Depth to bedrock	1.00
						Slope	1.00

Table 14b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CcgD2:							
Grayford------------	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to bedrock	0.26	Too clayey	0.50
		Too clayey	0.50			Depth to bedrock	0.26
CcgD3:							
Caneyville, severely eroded-------------	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00	Slope	1.00	Hard to compact	1.00
		Slope	1.00			Depth to bedrock	1.00
						Slope	1.00
Grayford, severely eroded-------------	45	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to bedrock	0.50	Depth to bedrock	0.50
		Too clayey	0.50			Too clayey	0.50
CldB2:							
Cincinnati----------	45	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.80	Depth to saturated zone	0.12	Depth to saturated zone	0.38
Blocher-------------	45	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Depth to saturated zone	0.19	Too clayey	1.00
		Depth to saturated zone	0.86			Depth to saturated zone	0.47
ClfA:							
Cobbsfork-----------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
CwaAQ:							
Cuba----------------	92	Very limited		Somewhat limited		Not limited	
		Seepage, bottom layer	1.00	Flooding	0.40		
		Flooding	0.40				
CxdA:							
Cyclone-------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
DfnA:							
Dubois--------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Too clayey	0.50
DfnB2:							
Dubois--------------	77	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 14b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
DtwC2:							
Deputy	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.18	Depth to saturated zone	1.00
		Too clayey	1.00	Slope	0.04	Depth to bedrock	0.18
		Slope	0.04			Slope	0.04
DtzC3:							
Deputy, severely eroded	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.94	Depth to saturated zone	1.00
		Too clayey	1.00	Slope	0.04	Depth to bedrock	0.94
		Slope	0.04			Slope	0.04
Trappist, severely eroded	30	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00	Slope	0.04	Depth to bedrock	1.00
		Slope	0.04			Slope	0.04
EepAQ:							
Elkinsville	90	Somewhat limited		Somewhat limited		Not limited	
		Flooding	0.40	Flooding	0.40		
EesB2:							
Elkinsville	52	Not limited		Not limited		Not limited	
Millstone	43	Not limited		Not limited		Not limited	
FdbA:							
Fincastle	84	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
FdqB:							
Fincastle	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
Xenia	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
GmsF:							
Greybrook	89	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	0.50
HccB2:							
Haubstadt	84	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 14b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Trench sanitary landfill: Value	Area sanitary landfill: Rating class and limiting features	Area sanitary landfill: Value	Daily cover for landfill: Rating class and limiting features	Daily cover for landfill: Value
HcgAH:							
Haymond-------------	85	Very limited		Very limited		Not limited	
		Flooding	1.00	Flooding	1.00		
HcgAW:							
Haymond-------------	82	Very limited		Very limited		Not limited	
		Flooding	1.00	Flooding	1.00		
HcpAP:							
Haymond, frequently ponded, depression	86	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
HeeG:							
Hickory-------------	87	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	0.50
HizE2:							
Hickory-------------	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	0.50
Grayford------------	35	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to bedrock	0.26	Too clayey	0.50
		Too clayey	0.50			Depth to bedrock	0.26
HizE3:							
Hickory, severely eroded-------------	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Too clayey	0.50
Grayford, severely eroded-------------	35	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to bedrock	0.50	Depth to bedrock	0.50
		Too clayey	0.50			Too clayey	0.50
HleAW:							
Holton--------------	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
		Seepage, bottom layer	1.00				
MhyB2:							
Medora--------------	88	Very limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.96	Depth to saturated zone	0.98
		Too clayey	0.50				

Table 14b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
MhyC3:							
Medora, severely eroded	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50	Slope	0.04	Too clayey	0.50
		Slope	0.04			Slope	0.04
MmoC3:							
Miami, severely eroded	97	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.19	Depth to saturated zone	0.47
		Slope	0.04	Slope	0.04	Slope	0.04
MmoD3:							
Miami, severely eroded	97	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.86	Depth to saturated zone	0.19	Depth to saturated zone	0.47
MnpC2:							
Miami	95	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.19	Depth to saturated zone	0.47
		Slope	0.04	Slope	0.04	Slope	0.04
MnpD2:							
Miami	95	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.86	Depth to saturated zone	0.19	Depth to saturated zone	0.47
NaaA:							
Nabb	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
NaaB2:							
Nabb	78	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
OfaAW:							
Oldenburg	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
		Seepage, bottom layer	1.00	Seepage	1.00		
OmkC2:							
Otwell	72	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.19	Depth to saturated zone	0.47
		Slope	0.04	Slope	0.04	Slope	0.04

Table 14b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
OmkC3:							
Otwell, severely eroded	72	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.04	Slope	0.04	Slope	0.04
Omz:							
Orthents	100	Not rated		Not rated		Not rated	
PcrA:							
Pekin	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
PcrB2:							
Pekin	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
PcrC2:							
Pekin, eroded	72	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.04	Slope	0.04	Slope	0.04
PhaA:							
Peoga	83	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
PlpAH:							
Piopolis	97	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Too clayey	0.50				
PlpAHU:							
Piopolis, undrained	98	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Too clayey	0.50				
Pml:							
Pits, quarry	100	Not rated		Not rated		Not rated	
RptG:							
Rohan	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
						Gravel content	0.87

Table 14b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
RptG:							
Jessietown----------	36	Very limited Slope Depth to bedrock Too clayey	 1.00 1.00 0.50	Very limited Slope Depth to bedrock	 1.00 1.00	Very limited Slope Depth to bedrock Too clayey	 1.00 1.00 0.50
RywB2:							
Russell-------------	76	Somewhat limited Too clayey	 0.50	Not limited		Somewhat limited Too clayey	 0.50
RzfA:							
Ryker, terrace------	52	Somewhat limited Too clayey	 0.50	Not limited		Somewhat limited Too clayey	 0.50
Muscatatuck, terrace	48	Somewhat limited Depth to saturated zone Too clayey	 0.80 0.50	Somewhat limited Depth to saturated zone	 0.12	Somewhat limited Too clayey Depth to saturated zone	 0.50 0.38
RzfB2:							
Ryker, terrace------	52	Somewhat limited Too clayey	 0.50	Not limited		Somewhat limited Too clayey	 0.50
Muscatatuck, terrace	40	Somewhat limited Depth to saturated zone Too clayey	 0.80 0.50	Somewhat limited Depth to saturated zone	 0.12	Somewhat limited Too clayey Depth to saturated zone	 0.50 0.38
RzgA:							
Ryker---------------	45	Somewhat limited Too clayey	 0.50	Not limited		Somewhat limited Too clayey	 0.50
Muscatatuck---------	45	Somewhat limited Depth to saturated zone Too clayey	 0.80 0.50	Somewhat limited Depth to saturated zone	 0.12	Somewhat limited Depth to saturated zone	 0.38
RzgB2:							
Ryker---------------	50	Somewhat limited Too clayey	 0.50	Not limited		Somewhat limited Too clayey	 0.50
Muscatatuck---------	40	Somewhat limited Depth to saturated zone Too clayey	 0.80 0.50	Somewhat limited Depth to saturated zone	 0.12	Somewhat limited Depth to saturated zone	 0.38
RzgC2:							
Ryker---------------	50	Very limited Depth to bedrock Too clayey	 1.00 0.50	Not limited		Somewhat limited Too clayey	 0.50
Muscatatuck---------	35	Somewhat limited Depth to saturated zone Too clayey	 0.80 0.50	Somewhat limited Depth to saturated zone	 0.12	Somewhat limited Depth to saturated zone	 0.38

Table 14b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Trench sanitary landfill: Value	Area sanitary landfill: Rating class and limiting features	Area sanitary landfill: Value	Daily cover for landfill: Rating class and limiting features	Daily cover for landfill: Value
RzhC3:							
Ryker, severely eroded	37	Very limited		Not limited		Somewhat limited	
		Depth to bedrock	1.00			Too clayey	0.50
		Too clayey	0.50				
Grayford, severely eroded	30	Very limited		Somewhat limited		Somewhat limited	
		Depth to bedrock	1.00	Depth to bedrock	0.26	Too clayey	0.50
		Too clayey	0.50	Slope	0.04	Depth to bedrock	0.26
		Slope	0.04			Slope	0.04
Muscatatuck, severely eroded	28	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Depth to saturated zone	0.12	Too clayey	1.00
		Depth to saturated zone	0.80			Hard to compact	1.00
						Depth to saturated zone	0.38
SceA:							
Scottsburg	95	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00			Too clayey	0.50
		Too clayey	0.50				
ScfB2:							
Scottsburg	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00			Too clayey	0.50
		Too clayey	0.50				
Deputy	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.18	Depth to saturated zone	1.00
		Too clayey	1.00			Depth to bedrock	0.18
SifE:							
Senachwine	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
SifG:							
Senachwine	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
SldAW:							
Shoals	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	0.22
		Seepage, bottom layer	1.00	Seepage	1.00		

Table 14b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
StaAH:							
Steff	88	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	0.22
		Seepage, bottom layer	1.00	Seepage	1.00		
StaAQ:							
Steff	86	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	0.40	Flooding	0.40		
StdAH:							
Stendal	93	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
StdAQ:							
Stendal	88	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	0.40	Flooding	0.40		
SuoAH:							
Stonelick	100	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Seepage	0.52
		Seepage, bottom layer	1.00	Seepage	1.00		
ThbD4:							
Trappist, very severely eroded	73	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00	Slope	0.84	Depth to bedrock	1.00
		Slope	0.84			Slope	0.84
ThcD3:							
Trappist, severely eroded	44	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00	Slope	1.00	Depth to bedrock	1.00
		Slope	1.00			Slope	1.00
Rohan, severely eroded	29	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Gravel content	0.88
						Too clayey	0.50
ThdD2:							
Trappist	49	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00	Slope	1.00	Depth to bedrock	1.00
		Slope	1.00			Slope	1.00

Table 14b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
ThdD2:							
Rohan	33	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.63
Uby:							
Udorthents, loamy	100	Not rated		Not rated		Not rated	
UdaB:							
Urban land	46	Not rated		Not rated		Not rated	
Deputy	16	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.18	Depth to saturated zone	1.00
		Too clayey	1.00	Slope	0.04	Depth to bedrock	0.18
		Slope	0.04			Slope	0.04
Scottsburg	16	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00			Too clayey	0.50
		Too clayey	0.50				
UfcB:							
Urban land	49	Not rated		Not rated		Not rated	
Cincinnati	16	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.80	Depth to saturated zone	0.12	Depth to saturated zone	0.38
		Slope	0.04	Slope	0.04	Slope	0.04
Nabb	16	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
UfdA:							
Urban land	57	Not rated		Not rated		Not rated	
Cobbsfork	17	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Avonburg	16	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Too clayey	0.50
Usl:							
Udorthents, rubbish	100	Not rated		Not rated		Not rated	
W:							
Water	100	Not rated		Not rated		Not rated	

Table 14b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
WaaAH:							
Wakeland------------	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
WaaAW:							
Wakeland------------	82	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
WnmA:							
Whitcomb------------	87	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00			Too clayey	0.50
		Too clayey	0.50				
WokAH:							
Wilbur--------------	88	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
WokAW:							
Wilbur--------------	83	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
WooAQ:							
Wilhite-------------	96	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	1.00	Flooding	0.40	Too clayey	1.00
		Flooding	0.40				
WprAV:							
Wirt----------------	83	Very limited		Very limited		Not limited	
		Flooding	1.00	Flooding	1.00		
		Seepage, bottom layer	1.00	Seepage	1.00		
WprAW:							
Wirt----------------	83	Very limited		Very limited		Not limited	
		Flooding	1.00	Flooding	1.00		
		Seepage, bottom layer	1.00	Seepage	1.00		
WpuAH:							
Wirt----------------	88	Very limited		Very limited		Not limited	
		Flooding	1.00	Flooding	1.00		
		Seepage, bottom layer	1.00	Seepage	1.00		

Table 14b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WufB2:							
Williamstown	82	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Too clayey	0.50
XabB2:							
Xenia	95	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
ZnsB:							
Zenas	80	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	0.61	Hard to compact	1.00
		Too clayey	1.00			Too clayey	1.00
						Depth to bedrock	0.61

Table 15a.--Construction Materials

(Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Potential as source of gravel: Rating class	Potential as source of gravel: Value	Potential as source of sand: Rating class	Potential as source of sand: Value
AddA:					
Avonburg	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
AddB2:					
Avonburg	75	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
AzoA:					
Ayrshire	88	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.63
BbhA:					
Bartle	83	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
BgeAH:					
Birds	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
BgeAHU:					
Birds, undrained	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
BkeB:					
Bloomfield	50	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.72
Alvin	45	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.55
BlbB2:					
Blocher	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Jennings	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
BlcC2:					
Blocher	42	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 15a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel: Rating class	Value	Potential as source of sand: Rating class	Value
BlcC2:					
Jennings	27	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Deputy	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
BlcC3:					
Blocher, severely eroded	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Jennings, severely eroded	31	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Deputy, severely eroded	21	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
BlgC2:					
Blocher	54	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Cincinnati	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
BlgC3:					
Blocher, severely eroded	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Cincinnati, severely eroded	34	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
BlkE2:					
Bonnell	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Blocher	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Hickory	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 15a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel: Rating class	Value	Potential as source of sand: Rating class	Value
BnjA:					
Bobtown	92	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.66
BnuD3:					
Bonnell, severely eroded	37	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Hickory, severely eroded	31	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Blocher, severely eroded	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
BnxE2:					
Bonnell	65	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Grayford	25	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
BnxE3:					
Bonnell, severely eroded	65	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Grayford, severely eroded	25	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
BobE4:					
Bonnell, very severely eroded	53	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Hickory, very severely eroded	36	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
BodAQ:					
Bonnie	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 15a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel: Rating class	Value	Potential as source of sand: Rating class	Value
CcaG:					
Caneyville	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rock outcrop	19	Not rated		Not rated	
CcbC2:					
Caneyville	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Zenas	40	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
CcgD2:					
Caneyville	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Grayford	45	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
CcgD3:					
Caneyville, severely eroded	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Grayford, severely eroded	45	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
CldB2:					
Cincinnati	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Blocher	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
ClfA:					
Cobbsfork	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
CwaAQ:					
Cuba	92	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
CxdA:					
Cyclone	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 15a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel: Rating class	Value	Potential as source of sand: Rating class	Value
DfnA:					
Dubois	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
DfnB2:					
Dubois	77	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
DtwC2:					
Deputy	75	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
DtzC3:					
Deputy, severely eroded	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Trappist, severely eroded	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
EepAQ:					
Elkinsville	90	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.06	Thickest layer	0.00
EesB2:					
Elkinsville	52	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Millstone	43	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
FdbA:					
Fincastle	84	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
FdqB:					
Fincastle	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Xenia	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
GmsF:					
Greybrook	89	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00

Table 15a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel: Rating class	Value	Potential as source of sand: Rating class	Value
HccB2:					
Haubstadt	84	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
HcgAH:					
Haymond	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
HcgAW:					
Haymond	82	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
HcpAP:					
Haymond, frequently ponded, depression	86	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
HeeG:					
Hickory	87	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
HizE2:					
Hickory	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Grayford	35	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
HizE3:					
Hickory, severely eroded	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Grayford, severely eroded	35	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
HleAW:					
Holton	85	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
MhyB2:					
Medora	88	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
MhyC3:					
Medora, severely eroded	75	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 15a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel: Rating class	Value	Potential as source of sand: Rating class	Value
MmoC3:					
Miami, severely eroded	97	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
MmoD3:					
Miami, severely eroded	97	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
MnpC2:					
Miami	95	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
MnpD2:					
Miami	95	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
NaaA:					
Nabb	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
NaaB2:					
Nabb	78	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
OfaAW:					
Oldenburg	85	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.17
OmkC2:					
Otwell	72	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
OmkC3:					
Otwell, severely eroded	72	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Omz:					
Orthents	100	Not rated		Not rated	
PcrA:					
Pekin	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
PcrB2:					
Pekin	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 15a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
PcrC2:					
Pekin, eroded	72	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
PhaA:					
Peoga	83	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
PlpAH:					
Piopolis	97	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
PlpAHU:					
Piopolis, undrained	98	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Pml:					
Pits, quarry	100	Not rated		Not rated	
RptG:					
Rohan	45	Fair		Fair	
		Thickest layer	0.01	Bottom layer	0.00
		Bottom layer	0.71	Thickest layer	0.01
Jessietown	36	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
RywB2:					
Russell	76	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
RzfA:					
Ryker, terrace	52	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Muscatatuck, terrace	48	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
RzfB2:					
Ryker, terrace	52	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Muscatatuck, terrace	40	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
RzgA:					
Ryker	45	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00

Table 15a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel: Rating class	Value	Potential as source of sand: Rating class	Value
RzgA:					
Muscatatuck	45	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
RzgB2:					
Ryker	50	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Muscatatuck	40	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
RzgC2:					
Ryker	50	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Muscatatuck	35	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
RzhC3:					
Ryker, severely eroded	37	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Grayford, severely eroded	30	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Muscatatuck, severely eroded	28	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
SceA:					
Scottsburg	95	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
ScfB2:					
Scottsburg	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Deputy	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
SifE:					
Senachwine	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 15a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel: Rating class	Value	Potential as source of sand: Rating class	Value
SifG:					
Senachwine	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
SldAW:					
Shoals	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
StaAH:					
Steff	88	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
StaAQ:					
Steff	86	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
StdAH:					
Stendal	93	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
StdAQ:					
Stendal	88	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
SuoAH:					
Stonelick	100	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
ThbD4:					
Trappist, very severely eroded	73	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
ThcD3:					
Trappist, severely eroded	44	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rohan, severely eroded	29	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.71	Thickest layer	0.00
ThdD2:					
Trappist	49	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rohan	33	Fair		Fair	
		Thickest layer	0.04	Bottom layer	0.00
		Bottom layer	0.71	Thickest layer	0.04

Table 15a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel: Rating class	Value	Potential as source of sand: Rating class	Value
Uby:					
Udorthents, loamy	100	Not rated		Not rated	
UdaB:					
Urban land	46	Not rated		Not rated	
Deputy	16	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Scottsburg	16	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
UfcB:					
Urban land	49	Not rated		Not rated	
Cincinnati	16	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Nabb	16	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
UfdA:					
Urban land	57	Not rated		Not rated	
Cobbsfork	17	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Avonburg	16	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Usl:					
Udorthents, rubbish	100	Not rated		Not rated	
W:					
Water	100	Not rated		Not rated	
WaaAH:					
Wakeland	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
WaaAW:					
Wakeland	82	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
WnmA:					
Whitcomb	87	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
WokAH:					
Wilbur	88	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 15a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel: Rating class	Value	Potential as source of sand: Rating class	Value
WokAW:					
Wilbur	83	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
WooAQ:					
Wilhite	96	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
WprAV:					
Wirt	83	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
WprAW:					
Wirt	83	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.15	Thickest layer	0.00
WpuAH:					
Wirt	88	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
WufB2:					
Williamstown	82	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
XabB2:					
Xenia	95	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
ZnsB:					
Zenas	80	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00

Table 15b.--Construction Materials

(Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
AddA:							
Avonburg	85	Fair		Poor		Poor	
		Too acid	0.03	Wetness	0.00	Wetness	0.00
		Low content of organic matter	0.12	Low strength	0.00	Too acid	0.32
		Water erosion	0.37				
AddB2:							
Avonburg	75	Fair		Poor		Poor	
		Too acid	0.03	Low strength	0.00	Wetness	0.00
		Low content of organic matter	0.12	Wetness	0.00	Too acid	0.32
		Water erosion	0.37				
AzoA:							
Ayrshire	88	Fair		Poor		Poor	
		Low content of organic matter	0.12	Wetness	0.00	Wetness	0.00
		Too acid	0.97				
BbhA:							
Bartle	83	Fair		Poor		Poor	
		Too acid	0.05	Wetness	0.00	Wetness	0.00
		Low content of organic matter	0.12	Low strength	0.78	Too acid	0.41
		Water erosion	0.37				
BgeAH:							
Birds	85	Fair		Poor		Poor	
		Low content of organic matter	0.50	Low strength	0.00	Wetness	0.00
				Wetness	0.00		
		Water erosion	0.68				
BgeAHU:							
Birds, undrained	90	Fair		Poor		Poor	
		Water erosion	0.68	Wetness	0.00	Wetness	0.00
		Low content of organic matter	0.82	Low strength	0.78		
		Too acid	0.99				
BkeB:							
Bloomfield	50	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00				
		Low content of organic matter	0.50				
Alvin	45	Poor		Good		Fair	
		Wind erosion	0.00			Too sandy	0.92
		Low content of organic matter	0.12				
		Too sandy	0.92				
		Too acid	0.97				

Table 15b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
BlbB2:							
Blocher	50	Fair		Poor		Fair	
		Low content of organic matter	0.12	Low strength	0.00	Too acid	0.88
		Too acid	0.26	Wetness	0.89	Wetness	0.89
		Water erosion	0.68	Shrink-swell	0.99		
Jennings	40	Fair		Poor		Fair	
		Too acid	0.03	Low strength	0.00	Too acid	0.88
		Low content of organic matter	0.12	Wetness	0.89	Wetness	0.89
		Water erosion	0.37	Shrink-swell	0.96		
BlcC2:							
Blocher	42	Fair		Poor		Fair	
		Low content of organic matter	0.12	Low strength	0.00	Too acid	0.88
		Too acid	0.26	Wetness	0.89	Wetness	0.89
		Water erosion	0.68	Shrink-swell	0.99	Slope	0.96
Jennings	27	Fair		Poor		Fair	
		Too acid	0.03	Low strength	0.00	Too acid	0.88
		Low content of organic matter	0.12	Wetness	0.89	Wetness	0.89
		Water erosion	0.37	Shrink-swell	0.96	Slope	0.96
Deputy	25	Fair		Poor		Fair	
		Too acid	0.08	Low strength	0.00	Wetness	0.14
		Low content of organic matter	0.12	Wetness	0.14	Too acid	0.82
				Depth to bedrock	0.82	Slope	0.96
		Water erosion	0.68	Shrink-swell	0.87		
BlcC3:							
Blocher, severely eroded	40	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Low content of organic matter	0.12	Wetness	0.89	Too acid	0.82
				Shrink-swell	0.94	Wetness	0.89
		Too acid	0.26			Slope	0.96
		Water erosion	0.68				
Jennings, severely eroded	31	Fair		Poor		Fair	
		Too acid	0.03	Low strength	0.00	Wetness	0.14
		Low content of organic matter	0.12	Wetness	0.14	Too acid	0.88
				Shrink-swell	0.97	Slope	0.96
		Water erosion	0.37				
Deputy, severely eroded	21	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Too acid	0.08	Depth to bedrock	0.07	Wetness	0.14
		Low content of organic matter	0.12	Wetness	0.14	Too acid	0.50
				Shrink-swell	0.87	Slope	0.96
		Water erosion	0.68				

Table 15b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
BlgC2:							
Blocher	54	Fair		Poor		Fair	
		Low content of organic matter	0.12	Low strength	0.00	Too acid	0.88
		Too acid	0.26	Wetness	0.89	Wetness	0.89
		Water erosion	0.68	Shrink-swell	0.98	Slope	0.96
		Carbonate content	0.97				
Cincinnati	35	Fair		Poor		Fair	
		Low content of organic matter	0.12	Low strength	0.00	Wetness	0.53
		Too acid	0.26	Wetness	0.53	Too acid	0.82
		Water erosion	0.37			Slope	0.96
BlgC3:							
Blocher, severely eroded	45	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Low content of organic matter	0.12	Wetness	0.89	Too acid	0.82
		Too acid	0.26	Shrink-swell	0.94	Wetness	0.89
		Water erosion	0.68			Slope	0.96
		Carbonate content	0.97				
Cincinnati, severely eroded	34	Fair		Poor		Fair	
		Low content of organic matter	0.12	Low strength	0.00	Wetness	0.02
		Too acid	0.26	Wetness	0.02	Too acid	0.82
		Water erosion	0.37	Shrink-swell	0.99	Slope	0.96
		Carbonate content	0.97				
BlkE2:							
Bonnell	40	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Too acid	0.32	Shrink-swell	0.32	Slope	0.00
		Low content of organic matter	0.50	Slope	0.68	Too acid	0.98
		Water erosion	0.68				
		Carbonate content	0.97				
Blocher	30	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Low content of organic matter	0.12	Wetness	0.89	Slope	0.04
		Too acid	0.32	Shrink-swell	0.97	Too acid	0.88
		Water erosion	0.68			Wetness	0.89
Hickory	20	Fair		Fair		Poor	
		Low content of organic matter	0.12	Slope	0.08	Slope	0.00
		Too acid	0.54	Shrink-swell	0.99	Too clayey	0.57
		Carbonate content	0.92			Too acid	0.98
		Too clayey	0.98				

Table 15b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
BnjA:							
Bobtown-------------	92	Poor		Fair		Fair	
		Wind erosion	0.00	Wetness	0.24	Wetness	0.24
		Low content of organic matter	0.12			Too acid	0.88
		Too acid	0.32				
BnuD3:							
Bonnell, severely eroded-------------	37	Poor		Fair		Poor	
		Too clayey	0.00	Shrink-swell	0.55	Too clayey	0.00
		Too acid	0.32	Slope	0.92	Slope	0.00
		Low content of organic matter	0.50			Too acid	0.88
		Carbonate content	0.97				
Hickory, severely eroded-------------	31	Fair		Fair		Poor	
		Low content of organic matter	0.12	Slope	0.50	Slope	0.00
		Too acid	0.54			Too clayey	0.57
		Carbonate content	0.92			Too acid	0.98
		Too clayey	0.98				
Blocher, severely eroded-------------	25	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Low content of organic matter	0.12	Wetness	0.89	Slope	0.04
				Shrink-swell	0.94	Too acid	0.82
		Too acid	0.26			Wetness	0.89
		Water erosion	0.68				
		Carbonate content	0.97				
BnxE2:							
Bonnell-------------	65	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Slope	0.00
		Too acid	0.32	Shrink-swell	0.32	Too clayey	0.00
		Low content of organic matter	0.50	Slope	0.68	Too acid	0.98
		Water erosion	0.68				
		Carbonate content	0.97				
Grayford------------	25	Fair		Poor		Poor	
		Low content of organic matter	0.12	Low strength	0.00	Slope	0.00
				Depth to bedrock	0.74	Too acid	0.88
		Too acid	0.32	Shrink-swell	0.78	Hard to reclaim (rock fragments)	0.95
		Water erosion	0.90	Slope	0.92		
BnxE3:							
Bonnell, severely eroded-------------	65	Poor		Fair		Poor	
		Too clayey	0.00	Shrink-swell	0.55	Too clayey	0.00
		Too acid	0.32	Slope	0.68	Slope	0.00
		Low content of organic matter	0.50			Too acid	0.88
		Carbonate content	0.97				

Table 15b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
BnxE3:							
Grayford, severely eroded	25	Fair		Poor		Poor	
		Low content of organic matter	0.12	Low strength	0.00	Slope	0.00
		Too acid	0.32	Depth to bedrock	0.50	Too acid	0.88
		Water erosion	0.90	Shrink-swell	0.77	Hard to reclaim (rock fragments)	0.95
				Slope	0.92		
BobE4:							
Bonnell, very severely eroded	53	Poor		Fair		Poor	
		Too clayey	0.00	Slope	0.08	Too clayey	0.00
		Low content of organic matter	0.12	Shrink-swell	0.67	Slope	0.00
		Too acid	0.50			Too acid	0.88
		Carbonate content	0.97				
Hickory, very severely eroded	36	Fair		Fair		Poor	
		Low content of organic matter	0.12	Slope	0.08	Slope	0.00
		Too acid	0.54			Too clayey	0.57
		Carbonate content	0.92			Too acid	0.98
		Too clayey	0.98				
BodAQ:							
Bonnie	85	Fair		Poor		Poor	
		Too acid	0.50	Low strength	0.00	Wetness	0.00
		Low content of organic matter	0.50	Wetness	0.00	Too acid	0.95
		Water erosion	0.90				
CcaG:							
Caneyville	55	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Slope	0.00
		Droughty	0.72	Depth to bedrock	0.00	Too clayey	0.00
		Depth to bedrock	0.79	Slope	0.00	Depth to bedrock	0.79
		Too acid	0.84	Shrink-swell	0.23	Rock fragments	0.99
		Water erosion	0.90				
Rock outcrop	19	Not rated		Not rated		Not rated	
CcbC2:							
Caneyville	45	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Too acid	0.61	Depth to bedrock	0.00	Depth to bedrock	0.93
		Droughty	0.67	Shrink-swell	0.12	Slope	0.96
		Water erosion	0.90			Rock fragments	0.99
		Low content of organic matter	0.92			Too acid	0.99
Zenas	40	Fair		Poor		Fair	
		Too acid	0.32	Low strength	0.00	Hard to reclaim (rock fragments)	0.50
		Low content of organic matter	0.50	Depth to bedrock	0.39	Too clayey	0.54
		Water erosion	0.68	Shrink-swell	0.67	Too acid	0.88
		Too clayey	0.82				

Table 15b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
CcgD2:							
Caneyville	45	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Slope	0.00
		Droughty	0.72	Low strength	0.00	Too clayey	0.00
		Depth to bedrock	0.79	Shrink-swell	0.23	Depth to bedrock	0.79
		Too acid	0.84	Slope	0.68	Rock fragments	0.99
		Water erosion	0.90				
Grayford	45	Fair		Poor		Poor	
		Low content of organic matter	0.12	Low strength	0.00	Slope	0.00
		Too acid	0.32	Depth to bedrock	0.74	Too acid	0.88
		Water erosion	0.90	Shrink-swell	0.78	Hard to reclaim (rock fragments)	0.95
				Slope	0.92		
CcgD3:							
Caneyville, severely eroded	45	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.10	Shrink-swell	0.12	Depth to bedrock	0.10
		Too acid	0.61	Slope	0.68	Rock fragments	0.97
		Water erosion	0.90			Too acid	0.99
Grayford, severely eroded	45	Fair		Poor		Poor	
		Low content of organic matter	0.12	Low strength	0.00	Slope	0.00
		Too acid	0.32	Depth to bedrock	0.50	Too acid	0.88
		Water erosion	0.90	Shrink-swell	0.77	Hard to reclaim (rock fragments)	0.95
				Slope	0.98		
CldB2:							
Cincinnati	45	Fair		Poor		Fair	
		Low content of organic matter	0.12	Low strength	0.00	Too acid	0.82
		Too acid	0.26	Wetness	0.93	Wetness	0.93
		Water erosion	0.37				
Blocher	45	Fair		Poor		Fair	
		Low content of organic matter	0.12	Low strength	0.00	Too acid	0.88
		Too acid	0.26	Wetness	0.89	Wetness	0.89
		Water erosion	0.68	Shrink-swell	0.99		
		Carbonate content	0.97				
ClfA:							
Cobbsfork	85	Fair		Poor		Poor	
		Too acid	0.08	Wetness	0.00	Wetness	0.00
		Low content of organic matter	0.12	Low strength	0.22	Too acid	0.50
		Water erosion	0.37				
CwaAQ:							
Cuba	92	Fair		Poor		Fair	
		Too acid	0.32	Low strength	0.00	Too acid	0.88
		Water erosion	0.68				
		Low content of organic matter	0.88				

Table 15b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
CxdA:							
Cyclone	90	Fair		Poor		Poor	
		Carbonate content	0.46	Wetness	0.00	Wetness	0.00
		Too clayey	0.98	Low strength	0.00	Too clayey	0.81
		Water erosion	0.99	Shrink-swell	0.89		
DfnA:							
Dubois	85	Fair		Poor		Poor	
		Too acid	0.05	Wetness	0.00	Wetness	0.00
		Low content of organic matter	0.12	Low strength	0.00	Too acid	0.41
		Water erosion	0.37				
DfnB2:							
Dubois	77	Fair		Poor		Poor	
		Too acid	0.05	Wetness	0.00	Wetness	0.00
		Low content of organic matter	0.12	Low strength	0.00	Too acid	0.41
		Water erosion	0.37				
DtwC2:							
Deputy	75	Fair		Poor		Fair	
		Too acid	0.08	Low strength	0.00	Wetness	0.14
		Low content of organic matter	0.12	Wetness	0.14	Too acid	0.82
				Depth to bedrock	0.82	Slope	0.96
		Water erosion	0.68	Shrink-swell	0.87		
DtzC3:							
Deputy, severely eroded	45	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Too acid	0.08	Depth to bedrock	0.07	Wetness	0.14
		Low content of organic matter	0.12	Wetness	0.14	Too acid	0.50
				Shrink-swell	0.87	Slope	0.96
		Water erosion	0.68				
Trappist, severely eroded	30	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Depth to bedrock	0.10	Low strength	0.00	Depth to bedrock	0.10
		Low content of organic matter	0.12	Shrink-swell	0.87	Too acid	0.59
						Slope	0.96
		Droughty	0.13				
		Too acid	0.50				
EepAQ:							
Elkinsville	90	Fair		Fair		Fair	
		Low content of organic matter	0.12	Shrink-swell	0.87	Too acid	0.88
		Too acid	0.32				
		Water erosion	0.90				
EesB2:							
Elkinsville	52	Fair		Fair		Fair	
		Too acid	0.16	Shrink-swell	0.87	Too acid	0.68
		Low content of organic matter	0.32				
		Water erosion	0.90				

Table 15b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
EesB2:							
Millstone	43	Fair		Good		Fair	
		Low content of organic matter	0.12			Too acid	0.68
		Too acid	0.16				
		Water erosion	0.90				
FdbA:							
Fincastle	84	Fair		Poor		Poor	
		Low content of organic matter	0.12	Wetness	0.00	Wetness	0.00
		Water erosion	0.68	Low strength	0.00		
		Carbonate content	0.74	Shrink-swell	0.97		
		Too acid	0.84				
FdqB:							
Fincastle	50	Fair		Poor		Poor	
		Low content of organic matter	0.12	Wetness	0.00	Wetness	0.00
		Carbonate content	0.46	Low strength	0.00		
		Too acid	0.68	Shrink-swell	0.97		
		Water erosion	0.68				
Xenia	40	Fair		Fair		Fair	
		Carbonate content	0.46	Wetness	0.14	Wetness	0.14
		Water erosion	0.68	Shrink-swell	0.95	Too clayey	0.70
		Low content of organic matter	0.88				
		Too acid	0.97				
		Too clayey	0.98				
GmsF:							
Greybrook	89	Fair		Poor		Poor	
		Too acid	0.12	Slope	0.00	Slope	0.00
		Low content of organic matter	0.12	Low strength	0.00		
		Water erosion	0.37	Shrink-swell	0.92		
HccB2:							
Haubstadt	84	Fair		Poor		Fair	
		Too acid	0.12	Low strength	0.00	Wetness	0.14
		Low content of organic matter	0.12	Wetness	0.14		
		Water erosion	0.37				
HcgAH:							
Haymond	85	Fair		Good		Good	
		Water erosion	0.37				
		Too acid	0.97				
HcgAW:							
Haymond	82	Fair		Good		Good	
		Water erosion	0.37				
		Too acid	0.99				
HcpAP:							
Haymond, frequently ponded, depression	86	Fair		Good		Good	
		Water erosion	0.37				
		Too acid	0.97				

Table 15b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
HeeG:							
Hickory-------------	87	Fair		Poor		Poor	
		Low content of organic matter	0.12	Slope	0.00	Slope	0.00
		Too acid	0.32	Shrink-swell	0.99	Too clayey	0.57
		Carbonate content	0.92			Too acid	0.98
		Too clayey	0.98				
HizE2:							
Hickory-------------	55	Fair		Fair		Poor	
		Low content of organic matter	0.12	Slope	0.08	Slope	0.00
		Too acid	0.54	Shrink-swell	0.99	Too clayey	0.57
		Carbonate content	0.92			Too acid	0.98
		Too clayey	0.98				
Grayford------------	35	Fair		Poor		Poor	
		Low content of organic matter	0.12	Low strength	0.00	Slope	0.00
		Too acid	0.32	Depth to bedrock	0.74	Too acid	0.88
		Water erosion	0.90	Shrink-swell	0.78	Hard to reclaim (rock fragments)	0.95
				Slope	0.92		
HizE3:							
Hickory, severely eroded-------------	55	Fair		Fair		Poor	
		Low content of organic matter	0.12	Slope	0.50	Slope	0.00
		Too acid	0.54			Too clayey	0.57
		Carbonate content	0.92			Too acid	0.98
		Too clayey	0.98				
Grayford, severely eroded------------	35	Fair		Poor		Poor	
		Low content of organic matter	0.12	Low strength	0.00	Slope	0.00
		Too acid	0.32	Depth to bedrock	0.50	Too acid	0.88
		Water erosion	0.90	Shrink-swell	0.77	Hard to reclaim (rock fragments)	0.95
				Slope	0.92		
HleAW:							
Holton--------------	85	Fair		Poor		Poor	
		Low content of organic matter	0.50	Wetness	0.00	Wetness	0.00
		Water erosion	0.90				
		Too acid	0.95				
MhyB2:							
Medora--------------	88	Fair		Fair		Fair	
		Low content of organic matter	0.12	Wetness	0.24	Wetness	0.24
		Too acid	0.20			Too acid	0.76
		Water erosion	0.37			Rock fragments	0.92
MhyC3:							
Medora, severely eroded------------	75	Fair		Poor		Poor	
		Low content of organic matter	0.12	Wetness	0.00	Wetness	0.00
		Water erosion	0.37	Shrink-swell	0.99	Too acid	0.76
		Too acid	0.50			Rock fragments	0.92
						Slope	0.96

Table 15b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
MmoC3:							
Miami, severely eroded	97	Fair		Fair		Fair	
		Low content of organic matter	0.12	Wetness	0.89	Too clayey	0.57
		Carbonate content	0.16			Wetness	0.89
		Too acid	0.95			Slope	0.96
		Too clayey	0.98				
		Droughty	0.99				
MmoD3:							
Miami, severely eroded	97	Fair		Fair		Poor	
		Low content of organic matter	0.12	Wetness	0.89	Slope	0.00
		Carbonate content	0.16			Too clayey	0.57
		Too acid	0.95			Wetness	0.89
		Too clayey	0.98				
		Droughty	0.99				
MnpC2:							
Miami	95	Fair		Fair		Fair	
		Low content of organic matter	0.12	Wetness	0.89	Too clayey	0.57
		Carbonate content	0.16			Wetness	0.89
		Water erosion	0.68			Slope	0.96
		Too acid	0.68				
		Too clayey	0.98				
MnpD2:							
Miami	95	Fair		Fair		Poor	
		Low content of organic matter	0.12	Wetness	0.89	Slope	0.00
		Carbonate content	0.16			Too clayey	0.57
		Too acid	0.68			Wetness	0.89
		Water erosion	0.68				
		Too clayey	0.98				
NaaA:							
Nabb	85	Fair		Poor		Fair	
		Too acid	0.12	Low strength	0.00	Wetness	0.14
		Low content of organic matter	0.12	Wetness	0.14	Too acid	0.76
		Water erosion	0.37				
NaaB2:							
Nabb	78	Fair		Poor		Fair	
		Too acid	0.12	Low strength	0.00	Wetness	0.14
		Low content of organic matter	0.12	Wetness	0.14	Too acid	0.76
		Water erosion	0.37				
OfaAW:							
Oldenburg	85	Fair		Fair		Fair	
		Low content of organic matter	0.88	Wetness	0.14	Wetness	0.14
		Water erosion	0.90				

Table 15b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
OmkC2:							
Otwell	72	Fair		Poor		Fair	
		Low content of organic matter	0.12	Low strength	0.00	Too acid	0.88
		Too acid	0.32	Shrink-swell	0.87	Wetness	0.89
		Water erosion	0.37	Wetness	0.89	Slope	0.96
OmkC3:							
Otwell, severely eroded	72	Fair		Poor		Fair	
		Low content of organic matter	0.12	Low strength	0.00	Wetness	0.14
		Too acid	0.32	Wetness	0.14	Too acid	0.88
		Water erosion	0.37	Shrink-swell	0.87	Slope	0.96
Omz:							
Orthents	100	Not rated		Not rated		Not rated	
PcrA:							
Pekin	90	Fair		Poor		Fair	
		Too acid	0.03	Low strength	0.00	Wetness	0.14
		Low content of organic matter	0.12	Wetness	0.14	Too acid	0.76
		Water erosion	0.37				
PcrB2:							
Pekin	85	Fair		Fair		Fair	
		Too acid	0.03	Wetness	0.14	Wetness	0.14
		Low content of organic matter	0.12			Too acid	0.32
		Water erosion	0.37				
PcrC2:							
Pekin, eroded	72	Fair		Poor		Fair	
		Too acid	0.03	Low strength	0.00	Wetness	0.14
		Low content of organic matter	0.12	Wetness	0.14	Too acid	0.76
		Water erosion	0.37			Slope	0.96
PhaA:							
Peoga	83	Fair		Poor		Poor	
		Low content of organic matter	0.12	Wetness	0.00	Wetness	0.00
		Too acid	0.16	Low strength	0.00	Too acid	0.68
		Water erosion	0.37				
PlpAH:							
Piopolis	97	Fair		Poor		Poor	
		Too acid	0.50	Wetness	0.00	Wetness	0.00
		Low content of organic matter	0.50	Low strength	0.00	Too clayey	0.64
		Water erosion	0.90	Shrink-swell	0.87	Too acid	0.95
		Too clayey	0.98				

Table 15b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
PlpAHU:							
Piopolis, undrained	98	Fair		Poor		Poor	
		Too acid	0.50	Wetness	0.00	Wetness	0.00
		Low content of organic matter	0.50	Low strength	0.00	Too clayey	0.64
				Shrink-swell	0.87	Too acid	0.95
		Water erosion	0.90				
		Too clayey	0.98				
Pml:							
Pits, quarry	100	Not rated		Not rated		Not rated	
RptG:							
Rohan	45	Poor		Poor		Poor	
		Depth to bedrock	0.00	Depth to bedrock	0.00	Slope	0.00
		Droughty	0.00	Slope	0.00	Rock fragments	0.00
		Too acid	0.50			Depth to bedrock	0.00
		Low content of organic matter	0.50			Too acid	0.59
Jessietown	36	Fair		Poor		Poor	
		Too acid	0.50	Low strength	0.00	Slope	0.00
		Depth to bedrock	0.54	Slope	0.00	Too acid	0.50
		Droughty	0.83	Depth to bedrock	0.00	Depth to bedrock	0.54
		Water erosion	0.90				
RywB2:							
Russell	76	Fair		Poor		Fair	
		Too acid	0.26	Low strength	0.00	Too acid	0.82
		Carbonate content	0.46	Shrink-swell	0.94		
		Water erosion	0.68				
		Low content of organic matter	0.88				
RzfA:							
Ryker, terrace	52	Fair		Poor		Fair	
		Low content of organic matter	0.12	Low strength	0.00	Too acid	0.95
				Shrink-swell	0.89		
		Too acid	0.32				
		Water erosion	0.68				
Muscatatuck, terrace	48	Fair		Poor		Fair	
		Low content of organic matter	0.12	Low strength	0.00	Too acid	0.82
				Wetness	0.93	Wetness	0.93
		Too acid	0.26	Shrink-swell	0.96	Hard to reclaim (rock fragments)	0.95
		Water erosion	0.37				
RzfB2:							
Ryker, terrace	52	Fair		Poor		Fair	
		Low content of organic matter	0.12	Low strength	0.00	Too acid	0.95
				Shrink-swell	0.87		
		Too acid	0.32				
		Water erosion	0.68				
Muscatatuck, terrace	40	Fair		Poor		Fair	
		Low content of organic matter	0.12	Low strength	0.00	Too acid	0.82
				Wetness	0.93	Wetness	0.93
		Too acid	0.26	Shrink-swell	0.96	Hard to reclaim (rock fragments)	0.95
		Water erosion	0.37				

Table 15b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
RzgA:							
Ryker	45	Fair		Poor		Fair	
		Low content of organic matter	0.12	Low strength	0.00	Too acid	0.95
		Too acid	0.32	Shrink-swell	0.89		
		Water erosion	0.68				
Muscatatuck	45	Fair		Poor		Fair	
		Low content of organic matter	0.12	Low strength	0.00	Too acid	0.82
				Wetness	0.93	Wetness	0.93
		Too acid	0.26	Shrink-swell	0.96		
		Water erosion	0.37				
RzgB2:							
Ryker	50	Fair		Poor		Fair	
		Low content of organic matter	0.12	Low strength	0.00	Too acid	0.95
		Too acid	0.32	Shrink-swell	0.87		
		Water erosion	0.68				
Muscatatuck	40	Fair		Poor		Fair	
		Low content of organic matter	0.12	Low strength	0.00	Too acid	0.82
				Wetness	0.93	Wetness	0.93
		Too acid	0.26	Shrink-swell	0.96		
		Water erosion	0.37				
RzgC2:							
Ryker	50	Fair		Poor		Fair	
		Low content of organic matter	0.12	Low strength	0.00	Too acid	0.95
		Too acid	0.32	Shrink-swell	0.86		
		Water erosion	0.68				
Muscatatuck	35	Fair		Poor		Fair	
		Low content of organic matter	0.12	Low strength	0.00	Too acid	0.82
				Wetness	0.93	Wetness	0.93
		Too acid	0.26	Shrink-swell	0.96		
		Water erosion	0.37				
RzhC3:							
Ryker, severely eroded	37	Fair		Poor		Fair	
		Low content of organic matter	0.12	Low strength	0.00	Too acid	0.95
		Too acid	0.32	Shrink-swell	0.82		
		Water erosion	0.68				
Grayford, severely eroded	30	Fair		Poor		Fair	
		Low content of organic matter	0.12	Low strength	0.00	Too acid	0.88
				Shrink-swell	0.73	Hard to reclaim (rock fragments)	0.95
		Too acid	0.32	Depth to bedrock	0.74		
		Water erosion	0.90			Slope	0.96
Muscatatuck, severely eroded	28	Fair		Poor		Fair	
		Low content of organic matter	0.12	Low strength	0.00	Too acid	0.82
				Shrink-swell	0.85	Wetness	0.93
		Too acid	0.26	Wetness	0.93		
		Water erosion	0.37				

Table 15b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
SceA:							
Scottsburg----------	95	Fair		Poor		Fair	
		Too acid	0.05	Low strength	0.00	Wetness	0.14
		Low content of organic matter	0.12	Wetness	0.14	Too acid	0.76
				Shrink-swell	0.87		
		Water erosion	0.68				
ScfB2:							
Scottsburg----------	50	Fair		Poor		Fair	
		Too acid	0.05	Low strength	0.00	Wetness	0.14
		Low content of organic matter	0.12	Wetness	0.14	Too acid	0.76
				Shrink-swell	0.87		
		Water erosion	0.68				
Deputy--------------	40	Fair		Poor		Fair	
		Too acid	0.08	Low strength	0.00	Wetness	0.14
		Low content of organic matter	0.12	Wetness	0.14	Too clayey	0.64
				Depth to bedrock	0.82	Too acid	0.82
		Water erosion	0.68	Shrink-swell	0.87		
		Too clayey	0.98				
SifE:							
Senachwine----------	90	Fair		Fair		Poor	
		Carbonate content	0.46	Slope	0.50	Slope	0.00
		Low content of organic matter	0.88				
		Water erosion	0.99				
SifG:							
Senachwine----------	90	Fair		Poor		Poor	
		Carbonate content	0.46	Slope	0.00	Slope	0.00
		Low content of organic matter	0.88				
		Water erosion	0.99				
SldAW:							
Shoals--------------	90	Fair		Poor		Poor	
		Water erosion	0.99	Wetness	0.00	Wetness	0.00
StaAH:							
Steff---------------	88	Fair		Fair		Fair	
		Low content of organic matter	0.12	Wetness	0.14	Wetness	0.14
						Too acid	0.88
		Too acid	0.50				
		Water erosion	0.68				
StaAQ:							
Steff---------------	86	Fair		Poor		Fair	
		Too acid	0.32	Low strength	0.00	Wetness	0.14
		Low content of organic matter	0.50	Wetness	0.14	Too acid	0.88
		Water erosion	0.68				
StdAH:							
Stendal-------------	93	Fair		Poor		Poor	
		Too acid	0.32	Low strength	0.00	Wetness	0.00
		Low content of organic matter	0.50	Wetness	0.00	Too acid	0.88
		Water erosion	0.68				

Table 15b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
StdAQ:							
Stendal	88	Fair		Poor		Poor	
		Too acid	0.32	Low strength	0.00	Wetness	0.00
		Low content of organic matter	0.50	Wetness	0.00	Too acid	0.88
		Water erosion	0.68				
SuoAH:							
Stonelick	100	Fair		Good		Fair	
		Carbonate content	0.92			Carbonate content	0.99
ThbD4:							
Trappist, very severely eroded	73	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.16
		Low content of organic matter	0.12			Depth to bedrock	0.54
						Too acid	0.59
		Too acid	0.50				
		Depth to bedrock	0.54				
ThcD3:							
Trappist, severely eroded	44	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Slope	0.00
		Low content of organic matter	0.12	Depth to bedrock	0.00	Too clayey	0.00
				Shrink-swell	0.87	Depth to bedrock	0.29
		Droughty	0.24			Too acid	0.59
		Depth to bedrock	0.29				
		Too acid	0.50				
Rohan, severely eroded	29	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.00	Slope	0.68	Depth to bedrock	0.00
		Low content of organic matter	0.50			Rock fragments	0.00
						Too acid	0.59
		Too acid	0.50				
ThdD2:							
Trappist	49	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Slope	0.00
		Low content of organic matter	0.12	Low strength	0.00	Too clayey	0.00
				Shrink-swell	0.87	Too acid	0.59
		Too acid	0.50			Depth to bedrock	0.90
		Water erosion	0.90				
		Depth to bedrock	0.90				
Rohan	33	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.00	Slope	0.68	Rock fragments	0.00
		Low content of organic matter	0.50			Depth to bedrock	0.00
						Too acid	0.59
		Too acid	0.50				
		Water erosion	0.90				
Uby:							
Udorthents, loamy	100	Not rated		Not rated		Not rated	

Table 15b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
UdaB:							
Urban land----------	46	Not rated		Not rated		Not rated	
Deputy--------------	16	Fair		Poor		Fair	
		Too acid	0.08	Low strength	0.00	Wetness	0.14
		Low content of organic matter	0.12	Wetness	0.14	Too acid	0.82
				Depth to bedrock	0.82	Slope	0.96
		Water erosion	0.68	Shrink-swell	0.87		
Scottsburg----------	16	Fair		Poor		Fair	
		Too acid	0.05	Low strength	0.00	Wetness	0.14
		Low content of organic matter	0.12	Wetness	0.14	Too acid	0.76
				Shrink-swell	0.87		
		Water erosion	0.68				
UfcB:							
Urban land----------	49	Not rated		Not rated		Not rated	
Cincinnati----------	16	Fair		Poor		Fair	
		Low content of organic matter	0.12	Low strength	0.00	Too acid	0.82
				Wetness	0.93	Wetness	0.93
		Too acid	0.26			Slope	0.96
		Water erosion	0.37				
Nabb----------------	16	Fair		Poor		Fair	
		Too acid	0.12	Low strength	0.00	Wetness	0.14
		Low content of organic matter	0.12	Wetness	0.14	Too acid	0.76
		Water erosion	0.37				
UfdA:							
Urban land----------	57	Not rated		Not rated		Not rated	
Cobbsfork-----------	17	Fair		Poor		Poor	
		Too acid	0.08	Wetness	0.00	Wetness	0.00
		Low content of organic matter	0.12	Low strength	0.22	Too acid	0.50
		Water erosion	0.37				
Avonburg------------	16	Fair		Poor		Poor	
		Too acid	0.03	Low strength	0.00	Wetness	0.00
		Low content of organic matter	0.12	Wetness	0.00	Too acid	0.32
		Water erosion	0.37				
Usl:							
Udorthents, rubbish	100	Not rated		Not rated		Not rated	
W:							
Water---------------	100	Not rated		Not rated		Not rated	
WaaAH:							
Wakeland------------	85	Fair		Poor		Poor	
		Low content of organic matter	0.12	Wetness	0.00	Wetness	0.00
		Water erosion	0.37				
		Too acid	0.99				

Table 15b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
WaaAW:							
Wakeland	82	Fair		Poor		Poor	
		Low content of organic matter	0.12	Wetness	0.00	Wetness	0.00
		Water erosion	0.37				
		Too acid	0.99				
WnmA:							
Whitcomb	87	Poor		Poor		Poor	
		Too acid	0.00	Wetness	0.00	Wetness	0.00
		Low content of organic matter	0.12	Low strength	0.00	Too acid	0.32
				Shrink-swell	0.92		
		Water erosion	0.37				
WokAH:							
Wilbur	88	Fair		Fair		Fair	
		Water erosion	0.37	Wetness	0.14	Wetness	0.14
		Low content of organic matter	0.88				
		Too acid	0.99				
WokAW:							
Wilbur	83	Fair		Fair		Fair	
		Water erosion	0.37	Wetness	0.14	Wetness	0.14
		Low content of organic matter	0.88				
		Too acid	0.99				
WooAQ:							
Wilhite	96	Fair		Poor		Poor	
		Water erosion	0.90	Wetness	0.00	Wetness	0.00
		Too acid	0.92	Low strength	0.00		
				Shrink-swell	0.67		
WprAV:							
Wirt	83	Fair		Good		Good	
		Low content of organic matter	0.50				
		Water erosion	0.99				
WprAW:							
Wirt	83	Fair		Good		Good	
		Low content of organic matter	0.50				
		Water erosion	0.99				
WpuAH:							
Wirt	88	Fair		Good		Good	
		Low content of organic matter	0.50				
		Water erosion	0.90				
		Too acid	0.97				
WufB2:							
Williamstown	82	Fair		Fair		Fair	
		Low content of organic matter	0.12	Wetness	0.14	Wetness	0.14
		Carbonate content	0.20				
		Too acid	0.88				
		Water erosion	0.90				

Table 15b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
XabB2:							
Xenia	95	Fair		Fair		Fair	
		Carbonate content	0.46	Wetness	0.14	Wetness	0.14
		Water erosion	0.68	Shrink-swell	0.95	Too clayey	0.70
		Low content of organic matter	0.88				
		Too acid	0.97				
		Too clayey	0.98				
ZnsB:							
Zenas	80	Fair		Poor		Fair	
		Too acid	0.32	Low strength	0.00	Hard to reclaim (rock fragments)	0.50
		Low content of organic matter	0.50	Depth to bedrock	0.39	Too clayey	0.54
		Water erosion	0.68	Shrink-swell	0.67	Too acid	0.88
		Too clayey	0.82				

Table 16.--Engineering Index Properties

(Absence of an entry indicates that data were not estimated. The representative values for USDA texture classifications are designated with an asterisk)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number-		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				Pct	Pct			
AddA:									
Avonburg--------	0-11	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-10
	11-21	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-10
	21-37	Silty clay loam*, silt loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-10
	37-52	Silt loam* silty clay loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	95-100	90-95
	52-83	Silt loam*	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	95-100	90-95
	83-90	Clay loam*	CL*	A-7-6*, A-6	0-1	0-1	90-100	85-95	70-90
AddB2:									
Avonburg--------	0-7	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-10
	7-16	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-10
	16-32	Silty clay loam*, silt loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-10
	32-42	Silt loam*, silty clay loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	95-100	90-95
	42-63	Silt loam*	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	95-100	90-95
	63-80	Clay loam*	CL*	A-7-6*, A-6	0-1	0-1	90-100	85-95	70-90
AzoA:									
Ayrshire--------	0-8	Fine sandy loam*	SC-SM*, SC, SM, CL-ML, CL	A-4*, A-2-4	0	0	100	98-100	80-10
	8-14	Fine sandy loam*, sandy loam, loam	SC*, CL, ML, SM, SC-SM, CL-ML	A-4*, A-2-4, A-6, A-2-6	0	0	100	98-100	70-10
	14-45	Fine sandy loam*, sandy loam, sandy clay loam, loam	SC-SM*, CL, ML, SC, SM, CL-ML	A-4*, A-2-4	0	0	100	98-100	65-85
	45-70	Fine sandy loam*, sandy clay loam, clay loam	SC-SM*, CL, ML, SC, SM, CL-ML	A-4*, A-2-4	0	0	100	98-100	65-85
	70-80	Fine sand*	SM*	A-2-4*	0	0	100	100	65-80

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number-		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				Pct	Pct			
BbhA:									
Bartle----------	0-9	Silt loam*	CL-ML*, ML	A-4*	0	0	100	100	90-10
	9-17	Silt loam*	CL-ML*, CL, ML	A-4*	0	0	100	100	90-10
	17-30	Silty clay loam*, silt loam	CL*, CL-ML	A-6*, A-4	0	0	100	100	95-10
	30-50	Silt loam*, silty clay loam	CL*, CL-ML	A-4*, A-6	0	0	100	100	95-10
	50-80	Silt loam*, loam, silty clay loam	CL*, CL-ML	A-4*, A-6	0	0	95-100	90-100	85-10
BgeAH:									
Birds-----------	0-8	Silt loam*	CL*, CL-ML	A-6*, A-4	0	0	100	100	90-10
	8-43	Silt loam*	CL*, CL-ML	A-6*, A-4	0	0	100	100	90-10
	43-60	Silt loam*	CL*, CL-ML	A-6*, A-4	0	0	100	95-100	75-10
BgeAHU:									
Birds, undrained	0-8	Silt loam*	CL*, CL-ML	A-4*, A-6	0	0	100	100	90-10
	8-43	Silt loam*	CL*, CL-ML	A-4*, A-6	0	0	100	100	90-10
	43-60	Silt loam*, stratified silt loam to loam	CL*, CL-ML	A-4*, A-6	0	0	100	95-100	75-10
BkeB:									
Bloomfield------	0-9	Fine sand*, loamy sand	SM*, SP, SP-SM	A-2-4*, A-3	0	0	100	100	70-90
	9-33	Fine sand*, loamy sand, loamy fine sand, sand	SM*	A-2-4*, A-3	0	0	100	100	70-10
	33-72	Fine sand*, sandy loam, loamy sand, loamy fine sand, sand	SM*, SP-SM	A-2-4*, A-3	0	0	100	100	70-10
	72-80	Fine sand*, loamy fine sand, sand	SM*, SP-SM	A-2-4*, A-3	0	0	100	100	70-10

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pas sieve number: 4	10	40
	In				Pct	Pct			
BkeB:									
Alvin-----------	0-7	Loamy sand*	SM*	A-2-4*	0	0	100	100	70-9
	7-10	Fine sandy loam*, sandy loam, loamy fine sand	SM*, SC-SM	A-2-4*, A-4	0	0	100	100	70-1
	10-40	Fine sandy loam*, sandy loam, sandy clay loam, loam	SC*, ML, SM, SC-SM, CL	A-2-4*, A-4, A-2-6, A-6	0	0	100	100	70-1
	40-70	Loamy sand*, sandy loam, fine sandy loam, fine sand	SM*, SC, SC-SM	A-2-4*, A-2	0	0	100	100	70-1
	70-80	Fine sand*, loamy fine sand, sand, sandy loam	SM*, SP-SM, SC-SM	A-2-4*, A-3	0	0	100	100	50-9
BlbB2:									
Blocher---------	0-7	Silt loam*	CL*, CL-ML, ML	A-4*, A-6	0	0	100	100	90-1
	7-32	Silty clay loam*, silt loam, loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	80-1
	32-66	Clay*, clay loam	CL*, CH	A-7-6*, A-6	0	0	90-100	85-95	75-9
	66-76	Clay loam*, clay	CL*	A-6*, A-7-6	0	0-2	95-100	90-95	75-9
	76-80	Very parachannery silty clay*, extremely parachannery silty clay loam, silty clay, silty clay loam	CL*	A-7-6*, A-6	0	0	100	98-100	95-1

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pas sieve number: 4	10	40
	In				Pct	Pct			
BlbB2:									
Jennings--------	0-9	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-1
	9-27	Silty clay loam*, silt loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-1
	27-38	Silt loam*, loam, silty clay loam	CL*, CL-ML	A-6*, A-4	0	0	100	95-100	80-9
	38-73	Clay loam*, silty clay loam	CL*	A-6*, A-7-6	0	0	90-100	85-98	75-9
	73-77	Very parachannery silty clay*, extremely parachannery silty clay loam, silty clay, silty clay loam	CL*	A-7-6*, A-6	0	0	100	98-100	95-1
	77-87	Bedrock*	---	---	---	---	---	---	---
BlcC2:									
Blocher---------	0-6	Silt loam*	CL*, CL-ML, ML	A-4*, A-6	0	0	100	100	90-1
	6-28	Silty clay loam*, silt loam, loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	80-1
	28-68	Clay*, clay loam	CL*, CH	A-7-6*, A-6	0	0	90-100	85-95	75-9
	68-78	Clay loam*, clay	CL*	A-6*, A-7-6	0	0-2	95-100	90-95	75-9
	78-95	Bedrock*	---	---	---	---	---	---	---
Jennings--------	0-9	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-1
	9-27	Silty clay loam*, silt loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-1
	27-38	Silt loam*, loam, silty clay loam	CL*, CL-ML	A-6*, A-4	0	0	100	95-100	80-9
	38-73	Clay loam*, silty clay loam	CL*	A-6*, A-7-6	0	0	90-100	85-98	75-9
	73-77	Very parachannery silty clay*, extremely parachannery silty clay loam, silty clay, silty clay loam	CL*	A-7-6*, A-6	0	0	100	98-100	95-1
	77-87	Bedrock*	---	---	---	---	---	---	---

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pas sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				Pct	Pct			
BlcC2:									
Deputy----------	0-8	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	95-1
	8-27	Silty clay loam*, silt loam	CL*, CL-ML	A-6*, A-7-6, A-4	0	0	100	100	95-1
	27-53	Silty clay*, clay	CL*, CH	A-7-6*	0	0	90-100	85-100	80-1
	53-77	Bedrock*	---	---	---	---	---	---	---
	77-87	Bedrock*	---	---	---	---	---	---	---
BlcC3:									
Blocher, severely eroded	0-5	Silt loam*	CL*, CL-ML, ML	A-4*, A-6	0	0	100	100	90-1
	5-18	Silty clay loam*, silt loam, loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	80-1
	18-47	Clay*, clay loam	CL*, CH	A-7-6*, A-6	0	0	90-100	85-95	75-9
	47-65	Clay loam*, clay	CL*	A-6*, A-7-6	0	0-2	95-100	90-95	75-9
	65-78	Bedrock*	---	---	---	---	---	---	---
Jennings, severely eroded	0-3	Silt loam*	CL*, CL-ML	A-4*, A-6	0	0	100	100	90-1
	3-17	Silty clay loam*, silt loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-1
	17-30	Silt loam*, loam, silty clay loam	CL*, CL-ML	A-6*, A-4	0	0	100	95-100	80-9
	30-69	Clay loam*, silty clay loam	CL*	A-6*, A-7-6	0	0	90-100	85-98	75-9
	69-75	Very parachannery silty clay*, extremely parachannery silty clay loam, silty clay, silty clay loam	CL*	A-7-6*, A-6	0	0	100	98-100	95-1
	75-85	Bedrock*	---	---	---	---	---	---	---
Deputy, severely eroded---------	0-4	Silty clay loam*, silt loam	CL*	A-6*, A-7-6	0	0	100	100	95-1
	4-17	Silty clay loam*, silt loam	CL*, CL-ML	A-6*, A-7-6, A-4	0	0	100	100	95-1
	17-43	Silty clay*, clay	CL*, CH	A-7-6*	0	0	90-100	85-100	80-1
	43-60	Bedrock*	---	---	---	---	---	---	---
	60-80	Bedrock*	---	---	---	---	---	---	---

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pas[sing] sieve number: 4	10	40
	In				Pct	Pct			
BlgC2:									
Blocher---------	0-6	Silt loam*	CL*, CL-ML, ML	A-4*, A-6	0	0	100	100	90-1
	6-26	Silty clay loam*, silt loam, loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	80-1
	26-66	Clay*, clay loam	CL*, CH	A-7-6*, A-6	0	0	90-100	85-95	75-9
	66-76	Clay loam*, clay	CL*	A-6*, A-7-6	0	0-2	95-100	90-95	75-9
	76-80	Loam*, clay loam	CL*, CL-ML	A-6*, A-4	0	0-2	95-100	90-95	75-9
Cincinnati------	0-8	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-1
	8-24	Silt loam*, silty clay loam	CL*, CL-ML	A-6*, A-7-6, A-4	0	0	100	100	90-1
	24-74	Silt loam*, loam	CL*	A-6*, A-4	0	0	98-100	95-100	85-9
	74-80	Clay loam*, loam	CL*	A-6*, A-4, A-7-6	0	0-2	90-100	85-95	70-9
BlgC3:									
Blocher, severely eroded	0-5	Silt loam*	CL*, ML, CL-ML	A-4*, A-6	0	0	100	100	90-1
	5-18	Silty clay loam*, silt loam, loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	80-1
	18-47	Clay*, clay loam	CL*, CH	A-7-6*, A-6	0	0	90-100	85-95	75-9
	47-64	Clay loam*, clay	CL*	A-6*, A-7-6	0	0-2	95-100	90-95	75-9
	64-80	Loam*, clay loam	CL*, CL-ML	A-6*, A-4	0	0-2	95-100	90-95	75-9
Cincinnati, severely eroded	0-5	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-1
	5-14	Silt loam*, silty clay loam	CL*, CL-ML	A-6*, A-7-6, A-4	0	0	100	100	90-1
	14-35	Silt loam*, loam	CL*	A-6*, A-4	0	0	98-100	95-100	85-9
	35-78	Clay loam*, loam	CL*	A-6*, A-4, A-7-6	0	0-2	90-100	85-95	70-9
	78-84	Loam*, clay loam	CL*, CL-ML	A-4*, A-6	0	0-2	95-100	90-95	75-9
BlkE2:									
Bonnell---------	0-6	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	85-1
	6-9	Silt loam*, loam, silty clay loam	CL*, CL-ML	A-6*, A-7-6, A-4	0	0	98-100	95-100	85-1
	9-44	Clay*, clay loam	CL*, CH	A-7-6*	0-1	0-2	95-100	90-95	80-9
	44-70	Clay loam*, loam	CL*	A-6*, A-7-6	0-1	0-2	95-100	90-95	75-9
	70-80	Loam*, clay loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0-1	90-100	85-95	70-9

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pas sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				Pct	Pct			
BlkE2:									
Blocher----------	0-6	Silt loam*	CL*, CL-ML, ML	A-4*, A-6	0	0	100	100	90-1
	6-22	Silty clay loam*, silt loam, loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	80-1
	22-66	Clay*, clay loam	CL*, CH	A-7-6*, A-6	0	0	90-100	85-95	75-9
	66-76	Clay loam*, clay	CL*	A-6*, A-7-6	0	0-2	95-100	90-95	75-9
	76-80	Loam*, clay loam	CL*, CL-ML	A-6*, A-4	0	0-2	95-100	90-95	75-9
Hickory----------	0-6	Silt loam*, loam	CL*, CL-ML, ML	A-4*, A-6	0	0-5	95-100	90-100	75-1
	6-38	Clay loam*, loam	CL*	A-6*, A-7-6	0-1	0-5	90-100	85-100	70-9
	38-44	Loam*, clay loam	CL*, CL-ML, SC, SC-SM	A-6*, A-4	0-1	0-5	90-100	80-95	70-9
	44-80	Loam*, clay loam, sandy loam	CL*, CL-ML, SC, SC-SM	A-4*, A-2, A-6	0-1	0-5	90-100	80-95	50-9
BnjA:									
Bobtown----------	0-9	Loamy fine sand*	SM*	A-2-4*	0	0	100	100	90-1
	9-20	Fine sandy loam*	SC-SM*, SM	A-4*, A-2-4	0	0	100	100	80-1
	20-52	Fine sandy loam*, sandy clay loam	SC*, CL, CL-ML, SC-SM	A-4*, A-6, A-2-4, A-2-6	0	0	100	100	80-1
	52-80	Stratified fine sand to loamy sand to loamy fine sand*	SM*, SP-SM	A-2-4*, A-3	0	0	100	100	50-7
BnuD3:									
Bonnell, severely eroded	0-3	Clay loam*	CL*	A-6*, A-7-6	0	0-2	98-100	95-100	80-9
	3-32	Clay*, clay loam	CL*, CH	A-7-6*	0	0-2	95-100	90-95	80-9
	32-54	Clay loam*, loam	CL*	A-6*, A-7-6	0	0-2	95-100	90-95	75-9
	54-80	Loam*, clay loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0-2	90-100	85-95	70-9
Hickory, severely eroded	0-4	Clay loam*	CL*	A-6*, A-7-6	0	0-2	95-100	90-98	80-9
	4-33	Clay loam*, loam	CL*	A-6*, A-7-6	0-1	0-5	90-100	85-100	70-9
	33-40	Loam*, clay loam	CL*, CL-ML, SC, SC-SM	A-6*, A-4	0-1	0-5	90-100	80-95	70-9
	40-80	Loam*, clay loam	CL*, SC, SC-SM, CL-ML	A-4*, A-2, A-6	0-1	0-5	90-100	80-95	50-9

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pas[sing] sieve number: 4	10	40
	In				Pct	Pct			
BnuD3:									
Blocher, severely eroded	0-4	Silt loam*	CL*, CL-ML, ML	A-4*, A-6	0	0	100	100	90-1
	4-18	Silty clay loam*, silt loam, loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	80-1
	18-47	Clay*, clay loam	CL*, CH	A-7-6*, A-6	0	0	90-100	85-95	75-9
	47-64	Clay loam*, clay	CL*	A-6*, A-7-6	0	0-2	95-100	90-95	75-9
	64-80	Loam*, clay loam	CL*, CL-ML	A-6*, A-4	0	0-2	95-100	90-95	75-9
BnxE2:									
Bonnell---------	0-6	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	85-1
	6-9	Silt loam*, loam, silty clay loam	CL*, CL-ML	A-6*, A-7-6, A-4	0	0	98-100	95-100	85-1
	9-44	Clay*, clay loam	CL*, CH	A-7-6*	0-1	0-2	95-100	90-95	80-9
	44-70	Clay loam*, loam	CL*	A-6*, A-7-6	0-1	0-2	95-100	90-95	75-9
	70-80	Loam*, clay loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0-1	90-100	85-95	70-9
Grayford--------	0-7	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	90-100	90-100	80-1
	7-16	Silt loam*, silty clay loam	CL*	A-6*, A-4, A-7-6	0	0	90-100	90-100	80-1
	16-45	Clay loam*, loam, silt loam	CL*	A-6*, A-4, A-7-6	0	0-5	90-100	85-100	70-9
	45-52	Clay*, gravelly clay, cobbly clay, silty clay	CH*, CL	A-7-6*	0	0-40	60-98	60-95	55-9
	52-60	Bedrock*	---	---	---	---	---	---	---
BnxE3:									
Bonnell, severely eroded	0-3	Silt loam*, clay loam	CL*	A-6*, A-7-6	0	0-2	98-100	95-100	80-9
	3-32	Clay*, clay loam	CL*, CH	A-7-6*	0	0-2	95-100	90-95	80-9
	32-54	Clay loam*, loam	CL*	A-6*, A-7-6	0	0-2	95-100	90-95	75-9
	54-80	Loam*, clay loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0-2	90-100	85-95	70-9

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pas[sing] sieve number: 4	10	40
	In				Pct	Pct			
BnxE3:									
Grayford, severely eroded	0-7	Silt loam*	CL*, CL-ML	A-4*, A-6	0	0	90-100	90-100	80-1
	7-12	Silt loam*, silty clay loam	CL*	A-6*, A-4, A-7-6	0	0	90-100	90-100	80-1
	12-42	Clay loam*, loam, silt loam	CL*	A-6*, A-4, A-7-6	0	0-5	90-100	85-100	70-9
	42-49	Clay*, gravelly clay, cobbly clay, silty clay	CH*, CL	A-7-6*	0	0-40	60-98	60-95	55-9
	49-60	Bedrock*	---	---	---	---	---	---	---
BobE4:									
Bonnell, very severely eroded	0-3	Clay loam*	CL*	A-6*, A-7-6	0	0-2	98-100	95-100	80-9
	3-25	Clay*, clay loam	CL*, CH	A-7-6*	0	0-2	95-100	90-95	80-9
	25-38	Clay loam*, loam	CL*	A-6*, A-7-6	0	0-2	95-100	90-95	75-9
	38-80	Loam*, clay loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0-2	90-100	85-95	70-9
Hickory, very severely eroded	0-3	Clay loam*	CL*	A-6*, A-7-6	0	0-2	95-100	90-98	80-9
	3-35	Clay loam*, loam	CL*	A-6*, A-7-6	0-1	0-5	90-100	85-100	70-9
	35-40	Loam*, clay loam	CL*, CL-ML, SC, SC-SM	A-6*, A-4	0-1	0-5	90-100	80-95	70-9
	40-80	Loam*, clay loam	CL*, SC-SM, CL-ML, SC	A-4*, A-2, A-6	0-1	0-5	90-100	80-95	50-9
BodAQ:									
Bonnie----------	0-8	Silt loam*	CL*	A-4*, A-6	0	0	100	100	95-1
	8-38	Silt loam*	CL*	A-4*, A-6	0	0	100	100	95-1
	38-60	Silt loam*, silty clay loam	CL*	A-4*, A-6	0	0	100	100	90-1
CcaG:									
Caneyville------	0-8	Silt loam*, silty clay loam	CL*, CL-ML, ML	A-4*, A-6	0-2	0-3	95-100	95-100	90-1
	8-14	Silty clay loam*, silt loam	CL*	A-6*, A-7-6	0-2	0-3	95-100	95-100	90-1
	14-33	Clay*, silty clay	CH*, CL	A-7*	0-2	0-15	90-100	85-100	85-1
	33-60	Bedrock*	---	---	---	---	---	---	---
Rock outcrop.									

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pas sieve number: 4	10	40
	In				Pct	Pct			
CcbC2:									
Caneyville------	0-6	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0-2	0-3	90-100	85-100	80-1
	6-10	Silty clay loam*, silt loam	CL*	A-6*, A-7-6	0-2	0-3	95-100	95-100	90-1
	10-36	Clay*, silty clay	CH*, CL	A-7*	0-2	0-15	90-100	85-100	85-1
	36-60	Bedrock*	---	---	---	---	---	---	---
Zenas-----------	0-9	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	95-1
	9-26	Silty clay loam*, silt loam	CL*, CL-ML, ML	A-6*, A-4, A-7-6	0	0	100	98-100	95-1
	26-42	Clay*, silty clay	CH*, CL	A-7-6*	0	0	90-100	85-100	75-9
	42-48	Silty clay*, clay	CH*, CL	A-7-6*	0	3-25	85-100	85-100	75-9
	48-80	Bedrock*	---	---	---	---	---	---	---
CcgD2:									
Caneyville------	0-8	Silt loam*	CL*, CL-ML, ML	A-4*, A-6	0-2	0-3	95-100	95-100	90-1
	8-14	Silty clay loam*, silt loam	CL*	A-6*, A-7-6	0-2	0-3	95-100	95-100	90-1
	14-33	Clay*, silty clay	CH*, CL	A-7*	0-2	0-15	90-100	85-100	85-1
	33-60	Bedrock*	---	---	---	---	---	---	---
Grayford--------	0-7	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	90-100	90-100	80-1
	7-16	Silt loam*, silty clay loam	CL*	A-6*, A-4, A-7-6	0	0	90-100	90-100	80-1
	16-45	Clay loam*, loam, silt loam	CL*	A-6*, A-4, A-7-6	0	0-5	90-100	85-100	70-9
	45-52	Clay*, gravelly clay, cobbly clay, silty clay	CH*, CL	A-7-6*	0	0-40	60-98	60-95	55-9
	52-60	Bedrock*	---	---	---	---	---	---	---
CcgD3:									
Caneyville, severely eroded	0-5	Silt loam*, silty clay loam	CL*, CL-ML	A-6*, A-4, A-7-6	0-2	0-10	90-100	85-100	80-1
	5-24	Clay*, silty clay	CH*, CL	A-7*	0-2	0-15	90-100	85-100	85-1
	24-60	Bedrock*	---	---	---	---	---	---	---

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pas[sing] sieve number: 4	10	40
	In				Pct	Pct			
CcgD3:									
Grayford, severely eroded	0-7	Silt loam*	CL*, CL-ML	A-4*, A-6	0	0	90-100	90-100	80-1
	7-12	Silt loam*, silty clay loam	CL*	A-6*, A-4, A-7-6	0	0	90-100	90-100	80-1
	12-42	Clay loam*, loam, silt loam	CL*	A-6*, A-4, A-7-6	0	0-5	90-100	85-100	70-9
	42-49	Clay*, gravelly clay, cobbly clay, silty clay	CH*, CL	A-7-6*	0	0-40	60-98	60-95	55-9
	49-60	Bedrock*	---	---	---	---	---	---	---
CldB2:									
Cincinnati------	0-8	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-1
	8-31	Silt loam*, silty clay loam	CL*, CL-ML	A-6*, A-7-6, A-4	0	0	100	100	90-1
	31-72	Silt loam*, loam	CL*	A-6*, A-4	0	0	98-100	95-100	85-9
	72-80	Clay loam*, loam	CL*	A-6*, A-4, A-7-6	0	0-2	90-100	85-95	70-9
Blocher---------	0-7	Silt loam*	CL*, CL-ML, ML	A-4*, A-6	0	0	100	100	90-1
	7-32	Silty clay loam*, silt loam, loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	80-1
	32-66	Clay*, clay loam	CL*, CH	A-7-6*, A-6	0	0	90-100	85-95	75-9
	66-76	Clay loam*, clay	CL*	A-6*, A-7-6	0	0-2	95-100	90-95	75-9
	76-80	Loam*, clay loam	CL*, CL-ML	A-6*, A-4	0	0-2	95-100	90-95	75-9
ClfA:									
Cobbsfork-------	0-12	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-1
	12-18	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-1
	18-38	Silt loam*, silty clay loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-1
	38-50	Silt loam*, silty clay loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	95-100	90-1
	50-85	Silt loam*	CL*, CL-ML	A-4*, A-6	0	0	100	95-100	90-1
	85-90	Clay loam*	CL*	A-6*, A-7-6	0	0	90-100	85-95	70-9

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40
	In				Pct	Pct			
CwaAQ:									
Cuba------------	0-10	Silt loam*	CL*, CL-ML	A-4*, A-6	0	0	100	95-100	90-1
	10-47	Silt loam*	CL*, CL-ML	A-4*, A-6	0	0	100	95-100	90-1
	47-60	Silt loam*, stratified silt loam to loam to sandy loam	CL*, ML, SC, SM	A-4*, A-2, A-2-4, A-6	0	0	90-100	80-100	50-1
CxdA:									
Cyclone---------	0-17	Silty clay loam*	CL*	A-6*	0	0	100	100	90-1
	17-52	Silty clay loam*, silt loam	CL*	A-7-6*, A-6	0	0	100	100	90-1
	52-58	Silty clay loam*, loam, silt loam, clay loam	CL*	A-7-6*, A-6	0	0	92-100	85-100	85-1
	58-65	Loam*	CL*, CL-ML	A-6*, A-4	0	0-1	91-100	85-100	75-9
	65-80	Loam*, fine sandy loam	CL*, CL-ML, ML, SC	A-4*, A-6	0-1	0-3	90-100	85-98	75-9
DfnA:									
Dubois----------	0-10	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-1
	10-17	Silt loam*	ML*, CL, CL-ML	A-4*, A-6	0	0	100	100	90-1
	17-38	Silty clay loam*, silt loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-1
	38-82	Silt loam*, silty clay loam, loam	CL*, CL-ML	A-6*, A-4	0	0	100	100	90-1
	82-96	Silty clay loam*, silt loam, clay loam, fine sandy loam	CL*, CL-ML, SC, SC-SM	A-6*, A-2, A-4, A-7-6	0	0	98-100	95-100	60-1
DfnB2:									
Dubois----------	0-6	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-1
	6-10	Silt loam*	ML*, CL, CL-ML	A-4*, A-6	0	0	100	100	90-1
	10-28	Silty clay loam*, silt loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-1
	28-68	Silt loam*, silty clay loam, loam	CL*, CL-ML	A-6*, A-4	0	0	100	100	90-1
	68-80	Silty clay loam*, silt loam, clay loam, fine sandy loam	CL*, CL-ML, SC, SC-SM	A-6*, A-2, A-4, A-7-6	0	0	98-100	95-100	60-1

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number-: 4	10	40
	In				Pct	Pct			
DtwC2:									
Deputy----------	0-8	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	95-10
	8-27	Silty clay loam* silt loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	95-10
	27-53	Silty clay*, clay	CL*, CH	A-7-6*	0	0	90-100	85-100	80-10
	53-77	Bedrock*	---	---	---	---	---	---	---
	77-87	Bedrock*	---	---	---	---	---	---	---
DtzC3:									
Deputy, severely eroded---------	0-4	Silty clay loam*, silt loam	CL*	A-6*, A-7-6	0	0	100	100	95-10
	4-17	Silty clay loam*, silt loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	95-10
	17-43	Silty clay*, clay	CL*, CH	A-7-6*	0	0	90-100	85-100	80-10
	43-60	Bedrock*	---	---	---	---	---	---	---
	60-80	Bedrock*	---	---	---	---	---	---	---
Trappist, severely eroded	0-6	Silty clay loam*	CL*	A-6*, A-7-6	0	0	100	100	95-10
	6-21	Silty clay*, silty clay loam, parachannery silty clay, parachannery silty clay loam	CL*, CH	A-7*, A-6	0	0	95-100	95-100	90-10
	21-24	Very parachannery silty clay loam*, extremely parachannery silty clay loam, parachannery silty clay	CL*, CH	A-6*, A-7	0	0	95-100	90-100	85-10
	24-40	Bedrock*	---	---	---	---	---	---	---

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass[ing] sieve number-- 4	10	40
	In				Pct	Pct			
EepAQ:									
Elkinsville-----	0-9	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-10
	9-24	Silt loam*, silty clay loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-10
	24-58	Loam*, clay loam, sandy clay loam	CL*, CL-ML, SC, SC-SM	A-6*, A-4	0	0	95-100	90-100	70-10
	58-68	Loam*, sandy loam, clay loam	CL*, CL-ML, SC, SC-SM	A-4*, A-2-4, A-2-6, A-6	0	0	95-100	90-100	55-10
	68-80	Loam*, fine sandy loam, sandy loam	SC-SM*, CL, CL-ML, SC	A-4*, A-2-4	0	0	85-100	80-100	50-95
EesB2:									
Elkinsville-----	0-8	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-10
	8-34	Silty clay loam*, silt loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-10
	34-60	Loam*, clay loam, sandy clay loam	CL*, CL-ML, SC, SC-SM	A-6*, A-4	0	0	95-100	90-100	55-10
	60-80	Stratified loam to sandy loam to sandy clay loam*	CL*, CL-ML, SC, SC-SM	A-4*, A-2-4, A-6	0	0	95-100	90-100	55-10
Millstone-------	0-10	Loam*, silt loam	CL-ML*, CL, ML	A-4*, A-6	0	0	95-100	90-100	80-10
	10-62	Loam*, fine sandy loam, clay loam, sandy loam	CL*, SC-SM, CL-ML, SC	A-6*, A-4	0	0	90-100	80-100	60-10
	62-80	Loam*, very fine sandy loam, gravelly sandy loam, clay loam	CL-ML*, SM, CL, ML, SC	A-4*, A-6, A-2-4	0	0	80-100	50-100	30-10
FdbA:									
Fincastle-------	0-10	Silt loam*	CL*, CL-ML	A-4*, A-6	0	0	100	98-100	90-10
	10-13	Silt loam*	CL*, CL-ML	A-4*, A-6	0	0	100	98-100	90-10
	13-27	Silty clay loam*, silt loam	CL*, CH	A-7-6*, A-6, A-7	0	0	100	98-100	90-10
	27-50	Clay loam*, loam	CL*	A-6*, A-7	0	0-2	92-100	85-100	80-95
	50-59	Loam*, clay loam	CL*, CL-ML	A-6*, A-4	0	0-2	90-100	85-100	65-95
	59-80	Loam*, fine sandy loam	CL*, SC, CL-ML, SC-SM	A-4*, A-6	0-1	0-5	90-100	80-95	65-90

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number-: 4	Percentage pass sieve number-: 10	Percentage pass sieve number-: 40
	In				Pct	Pct			
FdqB:									
Fincastle-------	0-10	Silt loam*	CL*, CL-ML	A-4*, A-6	0	0	100	98-100	90-10
	10-13	Silt loam*	CL*, CL-ML	A-4*, A-6	0	0	100	98-100	90-10
	13-27	Silty clay loam*, silt loam	CL*, CH	A-7-6*, A-6, A-7	0	0	100	98-100	90-10
	27-50	Clay loam*, loam	CL*	A-6*, A-7	0	0-2	92-100	85-100	80-95
	50-59	Loam*, clay loam	CL*, CL-ML	A-6*, A-4	0	0-2	90-100	85-100	65-95
	59-80	Loam*, fine sandy loam	CL*, CL-ML, SC, SC-SM	A-4*, A-6	0-1	0-5	90-100	80-95	65-90
Xenia-----------	0-8	Silt loam*	CL-ML*, CL	A-4*	0	0	100	100	95-10
	8-30	Silty clay loam*	CL*, CL-ML	A-6*, A-4, A-7	0	0	100	100	95-10
	30-50	Clay loam*, loam	CL*	A-6*, A-7	0	0-1	95-100	90-95	75-95
	50-58	Loam*, clay loam	CL*, CL-ML	A-6*, A-4	0	0-2	90-100	90-95	75-95
	58-80	Loam*, fine sandy loam	CL*, CL-ML	A-4*, A-6	0	0-1	90-100	90-95	75-90
GmsF:									
Greybrook-------	0-5	Silt loam*	CL*, CL-ML, ML	A-4*, A-6	0	0	100	100	90-10
	5-15	Silt loam*	CL*, CL-ML	A-4*, A-6	0	0	100	100	90-10
	15-62	Clay loam*, loam, silt loam	CL*	A-6*, A-7-6, A-4	0	0	95-100	90-100	75-95
	62-80	Stratified sandy clay loam to loam to clay loam to silt loam*	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	85-100	85-97	80-95
HccB2:									
Haubstadt-------	0-7	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-10
	7-32	Silty clay loam*, silt loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-10
	32-61	Silt loam*, silty clay loam, loam	CL*, CL-ML	A-6*, A-4	0	0	95-100	90-100	80-10
	61-80	Silty clay loam*, clay loam, loam	CL*, CL-ML, SC, SC-SM	A-6*, A-7-6, A-4	0	0	90-100	85-100	65-10

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number-: 4	10	40
	In				Pct	Pct			
HcgAH:									
Haymond---------	0-10	Silt loam*	CL-ML*, CL, ML	A-4*	0	0	100	100	90-10
	10-44	Silt loam*	CL-ML*, CL, ML	A-4*	0	0	100	100	90-10
	44-60	Silt loam*, stratified silt loam to sandy loam to loam	CL-ML*, CL, ML, SC, SM	A-4*, A-6	0	0	95-100	90-100	65-10
HcgAW:									
Haymond---------	0-9	Silt loam*	CL-ML*, CL, ML	A-4*	0	0	100	100	90-10
	9-44	Silt loam*	CL-ML*, CL, ML	A-4*	0	0	100	100	90-10
	44-60	Silt loam*, stratified silt loam to sandy loam to loam	CL-ML*, CL, ML, SC, SM	A-4*, A-6	0	0	95-100	90-100	65-10
HcpAP:									
Haymond, frequently ponded, depression-----	0-10	Silt loam*	CL-ML*, CL, ML	A-4*	0	0	100	100	90-10
	10-44	Silt loam*	CL-ML*, CL, ML	A-4*	0	0	100	100	90-10
	44-60	Stratified silt loam to sandy loam to loam*	CL-ML*, CL, ML, SC, SM	A-4*, A-6	0	0	95-100	90-100	65-10
HeeG:									
Hickory---------	0-6	Loam*	CL-ML*, CL, ML	A-4*, A-6	0	0-5	95-100	90-100	75-10
	6-38	Clay loam*, loam	CL*	A-6*, A-7-6	0-1	0-5	90-100	85-100	70-95
	38-44	Loam*, clay loam	CL*, CL-ML, SC, SC-SM	A-6*, A-4	0-1	0-5	90-100	80-95	70-95
	44-80	Loam*, clay loam, sandy loam	CL*, CL-ML, SC, SC-SM	A-4*, A-2, A-6	0-1	0-5	90-100	80-95	50-95

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number-: 4	10	40
	In				Pct	Pct			
HizE2:									
Hickory---------	0-6	Silt loam*, loam	CL*, CL-ML, ML	A-4*, A-6	0	0-5	95-100	90-100	75-10
	6-38	Clay loam*, loam	CL*	A-6*, A-7-6	0-1	0-5	90-100	85-100	70-95
	38-44	Loam*, clay loam	CL*, CL-ML, SC, SC-SM	A-6*, A-4	0-1	0-5	90-100	80-95	70-95
	44-80	Loam*, clay loam, sandy loam	CL*, CL-ML, SC, SC-SM	A-4*, A-2, A-6	0-1	0-5	90-100	80-95	50-95
Grayford--------	0-7	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	90-100	90-100	80-10
	7-16	Silt loam*, silty clay loam	CL*	A-6*, A-4, A-7-6	0	0	90-100	90-100	80-10
	16-45	Clay loam*, loam, silt loam	CL*	A-6*, A-4, A-7-6	0	0-5	90-100	85-100	70-95
	45-52	Clay*, gravelly clay, cobbly clay, silty clay	CH*, CL	A-7-6*	0	0-40	60-98	60-95	55-95
	52-60	Bedrock*	---	---	---	---	---	---	---
HizE3:									
Hickory, severely eroded	0-4	Clay loam*	CL*	A-6*, A-7-6	0	0-2	95-100	90-98	80-95
	4-33	Clay loam*, loam	CL*	A-6*, A-7-6	0-1	0-5	90-100	85-100	70-95
	33-40	Loam*, clay loam	CL*, CL-ML, SC, SC-SM	A-6*, A-4	0-1	0-5	90-100	80-95	70-95
	40-80	Loam*, clay loam	CL*, CL-ML, SC, SC-SM	A-4*, A-2, A-6	0-1	0-5	90-100	80-95	50-95
Grayford, severely eroded	0-7	Silt loam*	CL*, CL-ML	A-4*, A-6	0	0	90-100	90-100	80-10
	7-12	Silt loam*, silty clay loam	CL*	A-6*, A-4, A-7-6	0	0	90-100	90-100	80-10
	12-42	Clay loam*, loam, silt loam	CL*	A-6*, A-4, A-7-6	0	0-5	90-100	85-100	70-95
	42-49	Clay*, gravelly clay, cobbly clay, silty clay	CH*, CL	A-7-6*	0	0-40	60-98	60-95	55-95
	49-60	Bedrock*	---	---	---	---	---	---	---

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number-: 4	10	40
	In				Pct	Pct			
HleAW:									
Holton----------	0-14	Silt loam*, loam	CL-ML*, CL, ML	A-4*	0	0	100	100	80-10
	14-41	Fine sandy loam*, loam, sandy loam, silt loam	CL-ML*, CL, ML, SC-SM, SM	A-4*, A-2-4	0	0	90-100	85-100	50-10
	41-60	Stratified fine sandy loam to loam to loamy sand to sandy clay loam*	SM*, CL, ML, SC, SC-SM	A-2-4*, A-2-6, A-4, A-6	0	0-5	80-100	75-100	45-95
MhyB2:									
Medora----------	0-8	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	95-10
	8-21	Silt loam*, silty clay loam	CL*	A-6*, A-7-6	0	0	100	100	95-10
	21-45	Loam*, silt loam, gravelly loam, clay loam	CL*, SC, SC-SM, CL-ML	A-6*, A-4	0-2	0-5	80-100	75-100	65-95
	45-80	Sandy clay*, clay loam, sandy clay loam, gravelly sandy clay loam	SC*, CL	A-6*, A-2-6, A-2-7, A-7-6	0-2	0-5	80-100	75-100	60-95
MhyC3:									
Medora, severely eroded---------	0-7	Silt loam*	CL*, CL-ML, ML	A-4*, A-6	0	0	100	100	95-10
	7-16	Silt loam*, silty clay loam	CL*	A-6*, A-7-6	0	0	100	100	95-10
	16-35	Loam*, silt loam, gravelly loam, clay loam	CL*, SC, SC-SM, CL-ML	A-6*, A-4	0-2	0-5	80-100	75-100	65-95
	35-80	Sandy clay*, clay loam, sandy clay loam, gravelly sandy clay loam	SC*, CL	A-6*, A-2-6, A-2-7, A-7-6	0-2	0-5	80-100	75-100	60-95

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number-: 4	10	40
	In				Pct	Pct			
MmoC3:									
Miami, severely eroded---------	0-6	Clay loam*	CL*	A-6*	0	0	95-100	92-100	75-95
	6-29	Clay loam*, silty clay loam	CL*	A-6*, A-7-6	0-1	0-5	90-100	85-100	75-95
	29-34	Loam*, fine sandy loam	CL*, ML, SC, SM	A-6*, A-4	0-1	0-5	90-98	85-98	65-95
	34-80	Loam*, fine sandy loam	CL*, ML, SC, SM	A-4*, A-6	0-1	0-5	90-98	85-98	65-90
MmoD3:									
Miami, severely eroded---------	0-6	Clay loam*	CL*	A-6*	0	0	95-100	92-100	75-95
	6-29	Clay loam*, silty clay loam	CL*	A-6*, A-7-6	0-1	0-5	90-100	85-100	75-95
	29-34	Loam*, fine sandy loam	CL*, ML, SC, SM	A-6*, A-4	0-1	0-5	90-98	85-98	65-95
	34-80	Loam*, fine sandy loam	CL*, ML, SC, SM	A-4*, A-6	0-1	0-5	90-98	85-98	65-90
MnpC2:									
Miami-----------	0-7	Silt loam*	CL*, ML, CL-ML	A-4*, A-6	0	0	95-100	92-100	85-10
	7-13	Silty clay loam*, silt loam	CL*, CL-ML	A-6*, A-4	0	0-1	95-100	92-100	85-98
	13-31	Clay loam*, silty clay loam	CL*	A-6*, A-7-6	0-1	0-5	90-100	85-98	75-95
	31-36	Loam*, fine sandy loam	CL*, ML, SC, SM	A-6*, A-4	0-1	0-5	90-98	85-98	65-95
	36-80	Loam*, fine sandy loam	CL*, ML, SC, SM	A-4*, A-6	0-1	0-5	90-98	85-98	65-90
MnpD2:									
Miami-----------	0-7	Silt loam*	CL*, ML, CL-ML	A-4*, A-6	0	0	95-100	92-100	85-10
	7-13	Silty clay loam*, silt loam	CL*, CL-ML	A-6*, A-4	0	0-1	95-100	92-100	85-98
	13-31	Clay loam*, silty clay loam	CL*	A-6*, A-7-6	0-1	0-5	90-100	85-98	75-95
	31-36	Loam*, fine sandy loam	CL*, ML, SC, SM	A-6*, A-4	0-1	0-5	90-98	85-98	65-95
	36-80	Loam*, fine sandy loam	CL*, ML, SC, SM	A-4*, A-6	0-1	0-5	90-98	85-98	65-90

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number-		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				Pct	Pct			
NaaA:									
Nabb------------	0-10	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-10
	10-18	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-10
	18-35	Silty clay loam*, silt loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-10
	35-76	Silt loam*, silty clay loam	CL*, CL-ML	A-6*, A-7-6, A-4	0	0	98-100	95-100	90-95
	76-80	Clay loam*, loam	CL*	A-6*, A-4, A-7-6	0-2	0-2	90-100	85-95	70-90
NaaB2:									
Nabb------------	0-7	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-10
	7-13	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-10
	13-33	Silty clay loam*, silt loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-10
	33-71	Silt loam*, silty clay loam	CL*, CL-ML	A-6*, A-7-6, A-4	0	0	98-100	95-100	90-95
	71-80	Clay loam*, loam	CL*	A-6*, A-4, A-7-6	0-2	0-2	90-100	85-95	70-90
OfaAW:									
Oldenburg-------	0-9	Silt loam*, loam	CL-ML*, CL, ML	A-4*	0	0	98-100	95-100	85-10
	9-39	Loam*, sandy loam, silt loam	ML*, CL, SC, SM	A-4*, A-2-4	0	0	95-100	85-100	50-95
	39-60	Stratified sandy loam to loamy sand to loam to gravelly sandy loam*	SM*, CL-ML, ML, SC-SM	A-2-4*, A-1-b, A-4	0	0	60-100	50-100	30-90
OmkC2:									
Otwell----------	0-7	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-10
	7-27	Silt loam*, silty clay loam	CL*	A-6*, A-7-6	0	0	100	100	90-10
	27-55	Loam*, silty clay loam, silt loam	CL*	A-6*, A-4, A-7-6	0	0	95-100	95-100	85-10
	55-80	Stratified clay loam to sandy loam to silty clay loam to silt loam*	CL*, SC	A-4*, A-6, A-7-6	0	0	95-100	90-100	75-10

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pas[sing] sieve number: 4	10	40
	In				Pct	Pct			
OmkC3:									
Otwell, severely eroded	0-5	Silt loam*	CL*, CL-ML	A-4*, A-6	0	0	100	100	90-1
	5-14	Silt loam*, silty clay loam	CL*	A-6*, A-7-6	0	0	100	100	90-1
	14-52	Loam*, silty clay loam, silt loam	CL*	A-6*, A-4, A-7-6	0	0	95-100	95-100	85-1
	52-80	Stratified clay loam to sandy loam to silty clay loam to silt loam*	CL*, SC	A-4*, A-6, A-7-6	0	0	95-100	90-100	75-1
Omz.									
Orthents									
PcrA:									
Pekin	0-8	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-1
	8-29	Silt loam*, silty clay loam	CL*, CL-ML	A-6*, A-4	0	0	100	100	90-1
	29-58	Silt loam*, silty clay loam	CL*, CL-ML	A-6*, A-4	0	0	95-100	90-100	80-1
	58-80	Silt loam*, silty clay loam, loam, sandy loam	CL*, ML, SC, SM	A-4*, A-2-4, A-2-6, A-6	0	0	90-100	85-100	50-1
PcrB2:									
Pekin	0-9	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-1
	9-24	Silt loam*, silty clay loam	CL*, CL-ML	A-6*, A-4	0	0	100	100	90-1
	24-45	Silt loam*, silty clay loam	CL*, CL-ML	A-6*, A-4	0	0	95-100	90-100	80-1
	45-80	Silt loam*, silty clay loam, loam, sandy loam	CL*, ML, SC, SM	A-4*, A-2-4, A-2-6, A-6	0	0	90-100	85-100	50-1

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pas[sing] sieve number: 4	10	40
	In				Pct	Pct			
PcrC2:									
Pekin, eroded---	0-8	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-1
	8-28	Silt loam*, silty clay loam	CL*, CL-ML	A-6*, A-4	0	0	100	100	90-1
	28-57	Silt loam*, silty clay loam	CL*, CL-ML	A-6*, A-4	0	0	95-100	90-100	80-1
	57-80	Silt loam*, silty clay loam, loam, sandy loam	CL*, ML, SC, SM	A-4*, A-2-4, A-2-6, A-6	0	0	90-100	85-100	50-1
PhaA:									
Peoga-----------	0-8	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-1
	8-19	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-1
	19-36	Silt loam*, silty clay loam	CL*	A-6*, A-4, A-7-6	0	0	100	100	90-1
	36-76	Silt loam*, silty clay loam, loam	CL*	A-6*, A-4, A-7-6	0	0	98-100	95-100	80-1
	76-80	Silty clay loam*, silt loam, loam, clay loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	98-100	95-100	80-1
PlpAH:									
Piopolis--------	0-10	Silty clay loam*	CL*	A-7*, A-6	0	0	100	100	90-1
	10-31	Silty clay loam*	CL*	A-7*, A-6	0	0	100	100	90-1
	31-60	Silty clay loam*, silt loam	CL*	A-7*, A-6	0	0	100	100	90-1
PlpAHU:									
Piopolis, undrained------	0-10	Silty clay loam*	CL*	A-7*, A-6	0	0	100	100	90-1
	10-31	Silty clay loam*	CL*	A-7*, A-6	0	0	100	100	90-1
	31-60	Silty clay loam*, silt loam	CL*	A-7*, A-6	0	0	100	100	90-1
Pml.									
Pits, quarry									

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage pas[sing] sieve number: 4	10	40
	In				Pct	Pct			
RptG:									
Rohan-----------	0-4	Channery silt loam*	CL*, GC, ML	A-4*, A-6	0	0-10	55-80	50-75	45-7
	4-16	Very channery silt loam*, very channery silty clay loam, extremely channery silt loam	GC*, GC-GM, GM	A-6*, A-1-b, A-2, A-7	0-15	0-15	25-60	25-55	20-5
	16-40	Bedrock*	---	---	---	---	---	---	---
Jessietown------	0-5	Silt loam*	CL-ML*, CL, ML	A-4*	0	0	95-100	95-100	90-1
	5-23	Parachannery silty clay loam*, very parachannery silty clay loam, very parachannery silt loam, silty clay loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0-2	80-100	80-100	75-1
	23-30	Extremely parachannery silty clay*, very parachannery silty clay loam, extremely parachannery silty clay loam, very parachannery silty clay	CL*, CL-ML	A-6*, A-4, A-7-6	0-5	0-15	80-100	80-100	75-1
	30-40	Bedrock*	---	---	---	---	---	---	---
RywB2:									
Russell---------	0-8	Silt loam*	CL-ML*, CL	A-4*	0	0	100	100	95-1
	8-13	Silty clay loam*, silt loam	CL*	A-6*, A-7	0	0	100	100	95-1
	13-28	Silty clay loam*	CL*	A-6*, A-7	0	0	100	100	85-1
	28-52	Clay loam*, loam, silty clay loam	CL*	A-6*, A-7	0	0-1	95-100	85-100	85-9
	52-58	Loam*, clay loam	CL*, CL-ML	A-6*, A-4	0	0-1	92-100	85-100	75-9
	58-80	Loam*, fine sandy loam	CL*, CL-ML	A-4*, A-6	0	0-3	90-100	80-95	75-9

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pas[sing] sieve number: 4	10	40
	In				Pct	Pct			
RzfA:									
Ryker, terrace--	0-9	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-1
	9-12	Silt loam*	CL*, ML, CL-ML	A-4*, A-6	0	0	100	100	95-1
	12-30	Silty clay loam*, silt loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-1
	30-73	Silty clay loam*, clay loam, loam	CL*	A-6*, A-4, A-7	0	0	85-100	80-100	70-9
	73-120	Clay loam*, loam, clay, gravelly clay loam, cobbly clay	CH*, CL	A-7-6*	0	0-40	60-98	60-95	55-9
Muscatatuck, terrace--------	0-10	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-1
	10-25	Silt loam*, silty clay loam	CL*, CL-ML	A-6*, A-7-6, A-4	0	0	100	100	90-1
	25-36	Silt loam*, loam	CL*	A-6*, A-4	0	0	98-100	95-100	85-9
	36-67	Silty clay loam*, clay loam, loam	CL*	A-6*, A-4, A-7	0	0	85-100	80-100	70-9
	67-120	Clay loam*, clay, loam, gravelly clay loam, cobbly clay	CH*, CL	A-7-6*	0	0-40	60-98	60-95	55-9
RzfB2:									
Ryker, terrace--	0-7	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-1
	7-9	Silt loam*	CL*, ML, CL-ML	A-4*, A-6	0	0	100	100	95-1
	9-30	Silty clay loam*, silt loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-1
	30-73	Silty clay loam*, clay loam, loam	CL*	A-6*, A-4, A-7	0	0	85-100	80-100	70-9
	73-120	Clay loam*, loam, clay, gravelly clay loam, cobbly clay	CH*, CL	A-7-6*	0	0-40	60-98	60-95	55-9

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number-: 4	10	40
	In				Pct	Pct			
RzfB2:									
Muscatatuck, terrace--------	0-8	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-10
	8-25	Silt loam*, silty clay loam	CL*, CL-ML	A-6*, A-7-6, A-4	0	0	100	100	90-10
	25-36	Silt loam*, loam	CL*	A-6*, A-4	0	0	98-100	95-100	85-95
	36-67	Silty clay loam*, clay loam, loam	CL*	A-6*, A-4, A-7	0	0	85-100	80-100	70-95
	67-120	Clay loam*, loam, clay, gravelly clay loam, cobbly clay	CH*, CL	A-7-6*	0	0-40	60-98	60-95	55-95
RzgA:									
Ryker-----------	0-9	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-10
	9-12	Silt loam*	CL*, ML, CL-ML	A-4*, A-6	0	0	100	100	95-10
	12-38	Silty clay loam*, silt loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-10
	38-67	Silty clay loam*, clay loam, loam	CL*	A-6*, A-4, A-7	0	0	85-100	80-100	70-95
	67-80	Silty clay*, clay	CH*, CL	A-7-6*	0-2	0-5	80-100	80-100	75-10
Muscatatuck-----	0-8	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-10
	8-25	Silt loam*, silty clay loam	CL*, CL-ML	A-6*, A-7-6, A-4	0	0	100	100	90-10
	25-36	Silt loam*, loam	CL*	A-6*, A-4	0	0	98-100	95-100	85-95
	36-49	Silty clay loam*, clay loam, loam	CL*	A-6*, A-4, A-7	0	0	85-100	80-100	70-95
	49-80	Silty clay loam*, clay loam, loam	CL*	A-6*, A-4, A-7	0	0	85-100	80-100	70-95
RzgB2:									
Ryker-----------	0-6	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-10
	6-10	Silt loam*	CL*, ML, CL-ML	A-4*, A-6	0	0	100	100	95-10
	10-34	Silty clay loam*, silt loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-10
	34-63	Silty clay loam*, clay loam, loam	CL*	A-6*, A-4, A-7	0	0	85-100	80-100	70-95
	63-80	Silty clay*, clay	CH*, CL	A-7-6*	0-2	0-5	80-100	80-100	75-10

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number-: 4	10	40
	In				Pct	Pct			
RzgB2:									
Muscatatuck-----	0-8	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-10
	8-25	Silt loam*, silty clay loam	CL*, CL-ML	A-6*, A-7-6, A-4	0	0	100	100	90-10
	25-36	Silt loam*, loam	CL*	A-6*, A-4	0	0	98-100	95-100	85-95
	36-49	Silty clay loam*, clay loam, loam	CL*	A-6*, A-4, A-7	0	0	85-100	80-100	70-95
	49-80	Silty clay loam*, clay loam, loam	CL*	A-6*, A-4, A-7	0	0	85-100	80-100	70-95
RzgC2:									
Ryker-----------	0-8	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-10
	8-32	Silty clay loam*, silt loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-10
	32-58	Silty clay loam*, clay loam, loam	CL*	A-6*, A-7, A-4	0	0	85-100	80-100	70-95
	58-78	Silty clay*, clay	CH*, CL	A-7-6*	0-2	0-5	80-100	80-100	75-10
	78-80	Bedrock*	---	---	---	---	---	---	---
Muscatatuck-----	0-8	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-10
	8-25	Silt loam*, silty clay loam	CL*, CL-ML	A-6*, A-7-6, A-4	0	0	100	100	90-10
	25-36	Silt loam*, loam	CL*	A-6*, A-4	0	0	98-100	95-100	85-95
	36-49	Silty clay loam*, clay loam, loam	CL*	A-6*, A-4, A-7	0	0	85-100	80-100	70-95
	49-80	Silty clay loam*, clay loam, loam	CL*	A-6*, A-4, A-7	0	0	85-100	80-100	70-95
RzhC3:									
Ryker, severely eroded---------	0-7	Silt loam*	CL*, CL-ML	A-4*, A-6	0	0	100	100	90-10
	7-25	Silty clay loam*, silt loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-10
	25-54	Silty clay loam*, clay loam, loam	CL*	A-6*, A-4, A-7	0	0	85-100	80-100	70-95
	54-78	Silty clay*, clay	CH*, CL	A-7-6*	0-2	0-5	80-100	80-100	75-10
	78-80	Bedrock*	---	---	---	---	---	---	---

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pas sieve number: 4	10	40
	In				Pct	Pct			
RzhC3:									
Grayford, severely eroded	0-7	Loam*, silt loam, gravelly loam	CL-ML*, CL, ML	A-4*, A-6	0	0-5	80-100	60-100	60-1
	7-12	Silt loam*, silty clay loam	CL*	A-6*, A-4, A-7-6	0	0-5	80-100	60-100	60-1
	12-42	Clay loam*, loam, silt loam	CL*	A-6*, A-4, A-7-6	0	0-5	85-100	65-100	60-9
	42-52	Clay*, gravelly clay, cobbly clay, silty clay	CH*, CL	A-7-6*	0	0-40	60-98	60-95	55-9
	52-60	Bedrock*	---	---	---	---	---	---	---
Muscatatuck, severely eroded	0-4	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-1
	4-22	Silt loam*, silty clay loam	CL*, CL-ML	A-6*, A-7-6, A-4	0	0	100	100	90-1
	22-33	Silt loam*, loam	CL*	A-6*, A-4	0	0	98-100	95-100	85-9
	33-46	Silty clay loam*, clay loam, loam	CL*	A-6*, A-4, A-7	0	0	85-100	80-100	70-9
	46-80	Silty clay*, clay	CH*, CL	A-7-6*	0-2	0-5	82-100	80-100	72-1
SceA:									
Scottsburg------	0-8	Silt loam*	CL-ML*, ML, CL	A-4*, A-6	0	0	98-100	98-100	90-9
	8-31	Silty clay loam*, silt loam	CL*	A-6*, A-7-6	0	0	98-100	98-100	90-9
	31-53	Silty clay loam*, silt loam	CL*	A-6*, A-7-6	0	0	95-100	90-95	85-9
	53-61	Parachannery silty clay*, parachannery silty clay loam	CL*, CH, MH, ML	A-7*	0	0	98-100	95-100	95-1
	61-67	Bedrock*	---	---	---	---	---	---	---
	67-80	Bedrock*	---	---	---	---	---	---	---

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pas sieve number: 4	10	40
	In				Pct	Pct			
ScfB2:									
Scottsburg------	0-8	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	98-100	98-100	90-9
	8-31	Silty clay loam*, silt loam	CL*	A-6*, A-7-6	0	0	98-100	98-100	90-9
	31-53	Silty clay loam*, silt loam	CL*	A-6*, A-7-6	0	0	95-100	90-95	85-9
	53-61	Parachannery silty clay*, parachannery silty clay loam	CL*, CH, MH, ML	A-7*	0	0	98-100	95-100	95-1
	61-67	Bedrock*	---	---	---	---	---	---	---
	67-80	Bedrock*	---	---	---	---	---	---	---
Deputy----------	0-8	Silt loam*	CL-ML*, ML, CL	A-4*, A-6	0	0	100	100	95-1
	8-27	Silty clay loam*, silt loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	95-1
	27-53	Silty clay*, clay	CL*, CH	A-7-6*	0	0	90-100	85-100	80-1
	53-77	Bedrock*	---	---	---	---	---	---	---
	77-87	Bedrock*	---	---	---	---	---	---	---
SifE:									
Senachwine------	0-8	Loam*	CL*, CL-ML, ML	A-4*, A-6	0	0	95-100	95-100	80-9
	8-26	Clay loam*, silty clay loam	CL*	A-6*	0	0	92-100	85-100	85-9
	26-32	Loam*, clay loam	CL*, CL-ML	A-6*, A-4	0-1	0-1	92-100	85-95	80-9
	32-80	Loam*, fine sandy loam	CL-ML*, CL, ML	A-4*	0-1	0-5	90-100	85-95	75-9
SifG:									
Senachwine------	0-6	Loam*	CL*, CL-ML, ML	A-4*, A-6	0	0	95-100	95-100	80-9
	6-26	Clay loam*, silty clay loam	CL*	A-6*	0	0	92-100	85-100	85-9
	26-32	Loam*, clay loam	CL*, CL-ML	A-6*, A-4	0-1	0-1	92-100	85-95	80-9
	32-80	Loam*, fine sandy loam	CL-ML*, CL, ML	A-4*	0-1	0-5	90-100	85-95	75-9
SldAW:									
Shoals----------	0-8	Silt loam*, loam	CL*, CL-ML, ML	A-6*, A-4	0	0	100	95-100	90-1
	8-33	Loam*, silt loam, clay loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	95-100	75-1
	33-60	Stratified sandy loam to silt loam*	SC*, CL-ML, ML, SM, CL	A-4*, A-2-4, A-2-6, A-6	0	0-3	90-100	80-100	50-1

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pas sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				Pct	Pct			
StaAH:									
Steff----------	0-10	Silt loam*	ML*, CL, CL-ML	A-4*	0	0	100	95-100	85-1
	10-31	Silt loam*	CL*, CL-ML, ML	A-4*	0	0	95-100	95-100	85-1
	31-60	Stratified silt loam to loam to sandy loam*	CL*, ML, SM	A-4*, A-2-4	0	0	85-100	75-100	60-1
StaAQ:									
Steff----------	0-11	Silt loam*	ML*, CL, CL-ML	A-4*, A-6	0	0	100	95-100	85-1
	11-41	Silt loam*, silty clay loam	CL*, CL-ML, ML	A-6*, A-4	0	0	95-100	95-100	85-1
	41-60	Silt loam*, stratified silt loam to loam to sandy loam	CL*, SM, ML, SC-SM	A-4*, A-6, A-2-4	0	0	85-100	75-100	60-1
StdAH:									
Stendal---------	0-11	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-1
	11-41	Silt loam*, silty clay loam	CL*, CL-ML	A-6*, A-7-6, A-4	0	0	100	100	90-1
	41-60	Stratified silt loam to silty clay loam to loam*	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	95-100	90-100	75-1
StdAQ:									
Stendal---------	0-8	Silt loam*	CL-ML*, ML, CL	A-4*, A-6	0	0	100	100	90-1
	8-40	Silt loam*, silty clay loam	CL*, CL-ML	A-6*, A-7-6, A-4	0	0	100	100	90-1
	40-60	Silt loam*, stratified silt loam to silty clay loam to loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	95-100	90-100	75-1
SuoAH:									
Stonelick-------	0-10	Fine sandy loam*	SM*, CL-ML, ML, SC-SM	A-4*, A-2-4	0	0	92-100	75-100	70-1
	10-60	Stratified sand to loamy sand to sandy loam to loam*	SM*, CL-ML, ML, SP-SM	A-4*, A-1-b, A-2, A-3	0	0	92-100	75-100	40-9

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage pas[sing] sieve number: 4	10	40
	In				Pct	Pct			
ThbD4:									
Trappist, very severely eroded	0-3	Silty clay loam*	CL*	A-6*, A-7-6	0	0	100	95-100	90-1
	3-20	Silty clay*, silty clay loam, parachannery silty clay, parachannery silty clay loam	CL*, CH	A-7*, A-6	0	0	95-100	95-100	90-1
	20-30	Weathered bedrock*	---	---	---	---	---	---	---
	30-40	Bedrock*	---	---	---	---	---	---	---
ThcD3:									
Trappist, severely eroded	0-4	Silty clay loam*	CL*	A-6*, A-7-6	0	0	100	100	95-1
	4-21	Silty clay*, silty clay loam, parachannery silty clay, parachannery silty clay loam	CL*, CH	A-7*, A-6	0	0	95-100	95-100	90-1
	21-27	Very parachannery silty clay loam*, extremely parachannery silty clay loam, parachannery silty clay	CL*, CH	A-6*, A-7	0	0	95-100	90-100	85-1
	27-40	Bedrock*	---	---	---	---	---	---	---
Rohan, severely eroded---------	0-3	Channery silty clay loam*	CL*, GC, GC-GM, ML	A-4*, A-6	0-5	0-10	55-80	50-75	45-7
	3-12	Very channery silty clay loam*, very channery silt loam, extremely channery silt loam	GC*, GC-GM, GM	A-6*, A-1-b, A-2, A-7	0-15	0-15	25-60	25-55	20-5
	12-40	Bedrock*	---	---	---	---	---	---	---

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number-		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				Pct	Pct			
ThdD2:									
Trappist--------	0-6	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	95-10
	6-30	Silty clay*, silty clay loam, parachannery silty clay, parachannery silty clay loam	CL*, CH	A-7*, A-6	0	0	95-100	95-100	90-10
	30-35	Very parachannery silty clay loam*, extremely parachannery silty clay loam, parachannery silty clay	CL*, CH	A-6*, A-7	0	0	95-100	90-100	85-10
	35-45	Bedrock*	---	---	---	---	---	---	---
Rohan-----------	0-3	Silt loam*	CL-ML*, CL, ML	A-4*	0	0	80-100	80-95	65-95
	3-16	Very channery silt loam*, very channery silty clay loam, extremely channery silt loam	GC*, GC-GM, GM	A-6*, A-1-b, A-2, A-7	0-15	0-15	25-60	25-55	20-55
	16-40	Bedrock*	---	---	---	---	---	---	---
Uby. Udorthents, loamy									
UdaB: Urban land.									
Deputy----------	0-8	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	95-10
	8-27	Silty clay loam*, silt loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	95-10
	27-53	Silty clay*, clay	CL*, CH	A-7-6*	0	0	90-100	85-100	80-10
	53-67	Bedrock*	---	---	---	---	---	---	---
	67-87	Bedrock*	---	---	---	---	---	---	---

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number-: 4	10	40
	In				Pct	Pct			
UdaB:									
Scottsburg------	0-8	Silt loam*	CL-ML*, ML, CL	A-4*, A-6	0	0	98-100	98-100	90-95
	8-31	Silty clay loam*, silt loam	CL*	A-6*, A-7-6	0	0	98-100	98-100	90-95
	31-53	Silty clay loam*, silt loam	CL*	A-6*, A-7-6	0	0	95-100	90-95	85-90
	53-61	Parachannery silty clay*, parachannery silty clay loam	CL*, ML, CH, MH	A-7*	0	0	98-100	95-100	95-10
	61-80	Bedrock*	---	---	---	---	---	---	---
UfcB:									
Urban land.									
Cincinnati------	0-8	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-10
	8-24	Silt loam*, silty clay loam	CL*, CL-ML	A-6*, A-7-6, A-4	0	0	100	100	90-10
	24-74	Silt loam*, loam	CL*	A-6*, A-4	0	0	98-100	95-100	85-95
	74-80	Clay loam*, loam	CL*	A-6*, A-4, A-7-6	0	0-2	90-100	85-95	70-90
Nabb------------	0-7	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-10
	7-13	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-10
	13-33	Silty clay loam*, silt loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-10
	33-71	Silt loam*, silty clay loam	CL*, CL-ML	A-6*, A-7-6, A-4	0	0	98-100	95-100	90-95
	71-80	Clay loam*, loam	CL*	A-6*, A-4, A-7-6	0-2	0-2	90-100	85-95	70-90
UfdA:									
Urban land.									

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number-		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				Pct	Pct			
UfdA:									
Cobbsfork-------	0-12	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-10
	12-18	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-10
	18-38	Silt loam*, silty clay loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-10
	38-50	Silt loam*, silty clay loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	95-100	90-10
	50-85	Silt loam*	CL*, CL-ML	A-4*, A-6	0	0	100	95-100	90-10
	85-90	Clay loam*	CL*	A-6*, A-7-6	0	0	90-100	85-95	70-90
Avonburg--------	0-11	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-10
	11-21	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-10
	21-37	Silty clay loam*, silt loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-10
	37-52	Silt loam*, silty clay loam	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	95-100	90-95
	52-83	Silt loam*	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	95-100	90-95
	83-90	Clay loam*	CL*	A-7-6*, A-6	0-1	0-1	90-100	85-95	70-90
Usl. Udorthents, rubbish									
W. Water									
WaaAH:									
Wakeland--------	0-7	Silt loam*	CL-ML*, CL, ML	A-4*	0	0	100	100	90-10
	7-29	Silt loam*	CL-ML*, CL, ML	A-4*	0	0	100	100	90-10
	29-60	Stratified silt loam to loam*	CL-ML*, CL, ML	A-4*	0	0	100	100	85-10

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number-: 4	10	40
	In				Pct	Pct			
WaaAW:									
Wakeland--------	0-7	Silt loam*	CL-ML*, CL, ML	A-4*	0	0	100	100	90-10
	7-29	Silt loam*	CL-ML*, CL, ML	A-4*	0	0	100	100	90-10
	29-60	Silt loam*, stratified silt loam to loam	CL-ML*, CL, ML	A-4*	0	0	100	100	85-10
WnmA:									
Whitcomb--------	0-9	Silt loam*	CL-ML*, ML, CL	A-4*, A-6	0	0	100	100	95-10
	9-15	Silt loam*	CL*, CL-ML	A-4*, A-6	0	0	100	95-100	95-10
	15-30	Silty clay loam*, silt loam	CL*	A-6*, A-7-6	0	0	100	95-100	95-10
	30-48	Silty clay loam*	CL*	A-6*, A-7-6	0	0	100	95-100	95-10
	48-56	Silty clay*, silty clay loam	ML*, CL, MH, CH	A-7*	0	0	95-100	90-100	90-10
	56-61	Very parachannery silty clay loam*, parachannery silty clay loam, extremely parachannery silty clay, parachannery silty clay	ML*, CL, MH, CH	A-7*	0	0	100	100	95-10
	61-80	Bedrock*	---	---	---	---	---	---	---
WokAH:									
Wilbur----------	0-7	Silt loam*	CL-ML*, CL, ML	A-4*	0	0	100	100	95-10
	7-32	Silt loam*	CL-ML*, CL, ML	A-4*	0	0	100	100	95-10
	32-60	Stratified silt loam to loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	80-10
WokAW:									
Wilbur----------	0-7	Silt loam*	CL-ML*, CL, ML	A-4*	0	0	100	100	95-10
	7-32	Silt loam*	CL-ML*, CL, ML	A-4*	0	0	100	100	95-10
	32-60	Silt loam*, stratified silt loam to loam	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	80-10

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pas[sing] sieve number: 4	10	40
	In				Pct	Pct			
WooAQ:									
Wilhite---------	0-15	Silt loam*	CL-ML*, CL, ML	A-4*	0	0	100	100	90-1
	15-26	Silty clay*	CL*, CH	A-7-6*	0	0	100	100	95-1
	26-49	Silty clay*, silty clay loam	CL*, ML, CH	A-7-6*, A-6	0	0	100	100	95-1
	49-60	Silty clay*, silty clay loam	CL*, ML, CH	A-7-6*, A-6	0	0	100	100	90-1
WprAV:									
Wirt------------	0-8	Loam*, silt loam	CL-ML*, CL, ML	A-4*	0	0	98-100	95-100	80-1
	8-38	Loam*, sandy loam, silt loam	CL-ML*, CL, ML, SC, SM	A-4*, A-2-4	0	0	95-100	80-100	50-1
	38-60	Stratified loam to gravelly sandy loam to loamy sand*	SM*, CL-ML, ML, SC-SM	A-2-4*, A-1-b, A-4	0	0-2	80-100	50-100	30-9
WprAW:									
Wirt------------	0-8	Loam*, silt loam	CL-ML*, CL, ML	A-4*	0	0	98-100	95-100	80-1
	8-38	Loam*, sandy loam, silt loam	CL-ML*, CL, ML, SC, SM	A-4*, A-2-4	0	0	95-100	80-100	50-1
	38-60	Stratified loam to gravelly sandy loam to loamy sand*	SM*, CL-ML, ML, SC-SM	A-2-4*, A-1-b, A-4	0	0-2	80-100	50-100	30-9
WpuAH:									
Wirt------------	0-8	Silt loam*, loam	CL-ML*, CL, ML	A-4*	0	0	98-100	95-100	80-1
	8-38	Loam*, fine sandy loam, silt loam, sandy loam	CL-ML*, CL, ML, SC, SM	A-4*, A-2-4	0	0	95-100	80-100	50-1
	38-60	Stratified loam to gravelly sandy loam to loamy sand*	SM*, CL-ML, ML, SC-SM	A-2-4*, A-1-b, A-4	0	0-2	80-100	50-100	30-9

Table 16.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pas[sing] sieve number: 4	10	40
	In				Pct	Pct			
WufB2:									
Williamstown----	0-9	Silt loam*	CL*, CL-ML, ML	A-4*, A-6	0	0	98-100	95-100	80-9
	9-33	Clay loam*, silty clay loam	CL*	A-7-6*, A-6, A-7	0	0-3	95-100	85-98	70-9
	33-37	Loam*, fine sandy loam	CL*, CL-ML	A-6*, A-4	0	0-3	85-98	75-90	70-9
	37-80	Loam*, fine sandy loam	CL*, CL-ML, SC, SC-SM, ML	A-4*, A-6	0-1	0-3	85-98	75-90	65-8
XabB2:									
Xenia-----------	0-8	Silt loam*	CL-ML*, CL	A-4*	0	0	100	100	95-1
	8-30	Silty clay loam*	CL*, CL-ML	A-6*, A-4, A-7	0	0	100	100	95-1
	30-50	Clay loam*, loam	CL*	A-6*, A-7	0	0-1	95-100	90-95	75-9
	50-58	Loam*, clay loam	CL*, CL-ML	A-6*, A-4	0	0-2	90-100	90-95	75-9
	58-80	Loam*, fine sandy loam	CL*, CL-ML	A-4*, A-6	0	0-1	90-100	90-95	75-9
ZnsB:									
Zenas-----------	0-9	Silt loam*	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	95-1
	9-26	Silty clay loam*, silt loam	CL*, CL-ML, ML	A-6*, A-4, A-7-6	0	0	100	98-100	95-1
	26-42	Clay*, silty clay	CH*, CL	A-7-6*	0	0	90-100	85-100	75-9
	42-48	Silty clay*, clay	CH*, CL	A-7-6*	0	3-25	85-100	85-100	75-9
	48-80	Bedrock*	---	---	---	---	---	---	---

Table 17.--Physical Properties of the Soils

(Absence of an entry indicates that data were not estimated. The properties are displayed as low, representative, and h
hyphens)

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	
AddA:								
Avonburg----------------	0-11	15-18-25	62-67-75	10-15-18	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0
	11-21	15-18-20	60-66-73	12-16-20	1.35-1.45-1.55	0.60-1.30-2.00	0.20-0.22-0.24	0
	21-37	8-11-20	50-62-71	24-27-30	1.40-1.50-1.60	0.06-0.33-0.60	0.14-0.18-0.21	3
	37-52	20-24-25	52-54-73	22-22-28	1.60-1.65-1.70	0.01-0.18-0.20	0.09-0.10-0.11	0
	52-83	15-20-30	50-56-65	20-24-26	1.70-1.75-1.80	0.01-0.06-0.20	0.06-0.07-0.08	0
	83-90	20-30-40	30-36-40	27-34-40	1.50-1.60-1.70	0.06-0.13-0.20	0.06-0.07-0.08	3
AddB2:								
Avonburg----------------	0-7	15-18-25	62-67-75	10-15-18	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0
	7-16	15-18-20	60-66-73	12-16-20	1.35-1.45-1.55	0.60-1.30-2.00	0.20-0.22-0.24	0
	16-32	8-11-20	50-62-71	24-27-30	1.40-1.50-1.60	0.06-0.33-0.60	0.14-0.18-0.21	3
	32-42	14-20-25	52-56-73	22-24-28	1.60-1.65-1.70	0.01-0.18-0.20	0.09-0.10-0.11	0
	42-63	20-24-30	50-54-65	20-22-26	1.70-1.75-1.80	0.01-0.06-0.20	0.06-0.07-0.08	0
	63-80	20-30-40	30-36-40	27-34-40	1.50-1.60-1.70	0.06-0.13-0.20	0.06-0.07-0.08	3
AzoA:								
Ayrshire----------------	0-8	50-62-70	20-30-45	5-8-12	1.40-1.55-1.70	0.60-1.30-2.00	0.10-0.16-0.21	0
	8-14	40-54-70	20-38-50	5-8-12	1.40-1.55-1.70	0.60-1.30-2.00	0.10-0.16-0.21	0
	14-45	40-65-75	10-18-40	8-17-27	1.45-1.58-1.70	0.60-3.30-6.00	0.09-0.14-0.18	0
	45-70	40-65-75	10-18-40	8-17-27	1.45-1.58-1.70	0.60-3.30-6.00	0.09-0.14-0.18	0
	70-80	75-90-98	1-6 -15	2-4-6	1.60-1.70-1.80	6.00-13.00-20.00	0.05-0.06-0.07	0
BbhA:								
Bartle------------------	0-9	5-12-20	62-74-85	10-14-18	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0
	9-17	5-12-15	65-72-83	12-16-20	1.40-1.50-1.60	0.60-1.30-2.00	0.20-0.22-0.24	0
	17-30	5-10-15	53-63-77	18-27-32	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	0
	30-50	5-10-15	53-65-77	18-25-32	1.60-1.70-1.80	0.01-0.18-0.20	0.06-0.07-0.08	0
	50-80	5-22-40	40-53-65	18-25-32	1.50-1.60-1.70	0.06-0.33-0.60	0.06-0.07-0.08	0
BgeAH:								
Birds-------------------	0-8	5-10-15	60-70-80	15-20-25	1.30-1.40-1.50	0.60-1.30-2.00	0.21-0.23-0.25	0
	8-43	5-10-15	60-70-80	18-20-27	1.40-1.50-1.60	0.60-1.30-2.00	0.20-0.22-0.24	0
	43-60	5-10-15	60-70-80	15-20-27	1.35-1.48-1.60	0.20-0.60-2.00	0.17-0.21-0.24	0
BgeAHU:								
Birds, undrained--------	0-8	5-10-15	60-70-80	15-20-26	1.30-1.40-1.50	0.60-1.30-2.00	0.21-0.23-0.25	0
	8-43	5-8 -15	60-70-77	18-22-26	1.40-1.50-1.60	0.20-0.40-0.60	0.20-0.22-0.24	0
	43-60	5-10-40	35-68-80	15-22-26	1.35-1.48-1.60	0.20-0.40-0.60	0.17-0.21-0.24	0

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	
BkeB:								
Bloomfield	0-9	75-88-95	5-9 -15	2-3-10	1.45-1.55-1.65	6.00-13.00-20.00	0.07-0.08-0.09	0
	9-33	75-89-95	3-5 -15	2-6-10	1.45-1.55-1.65	6.00-13.00-20.00	0.08-0.10-0.12	0
	33-72	75-89-95	3-5 -15	5-6-13	1.60-1.70-1.80	2.00-11.00-20.00	0.08-0.10-0.12	0
	72-80	75-90-95	3-5 -15	2-5-13	1.60-1.70-1.80	6.00-13.00-20.00	0.06-0.07-0.08	0
Alvin	0-7	75-86-95	5-11-15	2-3-10	1.45-1.55-1.65	6.00-13.00-20.00	0.09-0.10-0.13	0
	7-10	55-71-85	5-22-35	5-7-15	1.45-1.55-1.65	2.00-4.00-6.00	0.10-0.14-0.17	0
	10-40	50-74-75	5-12-30	5-14-22	1.45-1.55-1.65	2.00-4.00-6.00	0.12-0.14-0.18	0
	40-70	75-81-95	2-9 -25	5-10-18	1.40-1.53-1.65	2.00-4.00-6.00	0.10-0.14-0.18	0
	70-80	75-89-95	2-5 -15	3-6-10	1.45-1.55-1.65	6.00-13.00-20.00	0.06-0.07-0.08	0
BlbB2:								
Blocher	0-7	5-15-25	50-67-80	12-18-22	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0
	7-32	5-10-25	45-62-75	20-28-30	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	0
	32-66	25-28-35	15-32-45	35-40-45	1.50-1.60-1.70	0.06-0.13-0.20	0.11-0.14-0.16	3
	66-76	25-34-38	20-31-48	30-35-40	1.50-1.60-1.70	0.06-0.13-0.20	0.11-0.14-0.16	3
	76-80	4-6 -8	44-52-58	38-42-48	1.40-1.50-1.60	0.01-0.10-0.20	0.06-0.07-0.08	3
Jennings	0-9	6-10-15	60-72-80	10-18-24	1.30-1.40-1.50	0.60-1.30-2.00	0.18-0.21-0.24	0
	9-27	6-10-15	50-63-70	24-27-32	1.50-1.58-1.65	0.60-1.30-2.00	0.14-0.18-0.21	3
	27-38	18-25-30	42-51-64	18-24-28	1.65-1.70-1.75	0.01-0.06-0.20	0.06-0.07-0.08	0
	38-73	20-28-35	26-37-52	28-35-39	1.55-1.63-1.70	0.01-0.10-0.20	0.06-0.07-0.08	3
	73-77	4-6 -8	44-52-58	38-42-48	1.40-1.50-1.60	0.01-0.10-0.20	0.06-0.07-0.08	3
	77-87	---	---	---	---	0.00-0.18-0.60	---	
BlcC2:								
Blocher	0-6	5-15-25	50-67-80	12-18-22	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0
	6-28	5-10-25	45-62-75	20-28-30	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	0
	28-68	25-28-35	15-32-45	35-40-45	1.50-1.60-1.70	0.06-0.13-0.20	0.11-0.14-0.16	3
	68-78	25-34-38	20-31-48	30-35-40	1.50-1.60-1.70	0.06-0.13-0.20	0.11-0.14-0.16	3
	78-95	---	---	---	---	0.00-0.18-0.60	---	
Jennings	0-9	6-10-15	60-72-80	10-18-24	1.30-1.40-1.50	0.60-1.30-2.00	0.18-0.21-0.24	0
	9-27	6-10-15	50-63-70	24-27-32	1.50-1.58-1.65	0.60-1.30-2.00	0.14-0.18-0.21	3
	27-38	18-25-30	42-51-64	18-24-28	1.65-1.70-1.75	0.01-0.06-0.20	0.06-0.07-0.08	0
	38-73	15-28-35	26-37-52	28-35-39	1.55-1.63-1.70	0.01-0.10-0.20	0.06-0.07-0.08	3
	73-77	4-6 -8	44-52-58	38-42-48	1.40-1.50-1.60	0.01-0.10-0.20	0.06-0.07-0.08	3
	77-87	---	---	---	---	0.00-0.18-0.60	---	
Deputy	0-8	2-4 -10	64-77-86	12-19-26	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0
	8-27	2-6 -10	55-67-75	24-27-35	1.35-1.45-1.55	0.60-1.30-2.00	0.14-0.18-0.21	3
	27-53	2-11-20	30-44-50	40-45-50	1.40-1.50-1.60	0.06-0.13-0.20	0.08-0.12-0.16	3
	53-77	---	---	---	---	0.00-0.01-0.06	---	
	77-87	---	---	---	---	0.00-0.18-0.60	---	

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	
BlcC3:								
Blocher, severely eroded	0-5	3-15-25	50-61-80	16-24-26	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0
	5-18	5-10-25	45-62-75	20-28-30	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	0
	18-47	25-28-35	15-32-45	35-40-45	1.50-1.60-1.70	0.06-0.13-0.20	0.11-0.14-0.16	3
	47-65	25-34-38	20-31-48	30-35-40	1.50-1.60-1.70	0.06-0.13-0.20	0.11-0.14-0.16	3
	65-78	---	---	---	---	0.00-0.18-0.60	---	
Jennings, severely eroded-----------------	0-3	6-10-15	55-66-75	20-24-26	1.30-1.40-1.50	0.60-1.30-2.00	0.18-0.21-0.24	0
	3-17	6-10-15	50-63-70	24-27-32	1.50-1.58-1.65	0.60-1.30-2.00	0.14-0.18-0.21	3
	17-30	18-25-30	42-51-64	18-24-28	1.65-1.70-1.75	0.01-0.06-0.20	0.06-0.07-0.08	0
	30-69	20-28-35	26-37-52	28-35-39	1.55-1.63-1.70	0.01-0.10-0.20	0.06-0.07-0.08	3
	69-75	4-6 -8	44-52-58	38-42-48	1.40-1.50-1.60	0.01-0.10-0.20	0.06-0.07-0.08	3
	75-85	---	---	---	---	0.00-0.18-0.60	---	
Deputy, severely eroded	0-4	1-7 -15	50-65-78	25-28-33	1.20-1.38-1.55	0.60-1.30-2.00	0.15-0.19-0.23	0
	4-17	2-6 -10	55-64-74	24-30-35	1.35-1.45-1.55	0.60-1.30-2.00	0.14-0.18-0.21	3
	17-43	2-11-20	30-44-58	40-45-50	1.40-1.50-1.60	0.06-0.13-0.20	0.08-0.12-0.16	3
	43-60	---	---	---	---	0.00-0.01-0.06	---	
	60-80	---	---	---	---	0.00-0.18-0.60	---	
BlgC2:								
Blocher-----------------	0-6	5-15-25	50-67-80	12-18-22	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0
	6-26	5-10-25	45-62-75	20-28-30	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	0
	26-66	25-28-35	15-32-45	35-40-45	1.50-1.60-1.70	0.06-0.13-0.20	0.11-0.14-0.16	3
	66-76	25-34-38	20-31-48	30-35-40	1.50-1.60-1.70	0.06-0.13-0.20	0.11-0.14-0.16	3
	76-80	25-40-45	30-34-48	16-26-28	1.50-1.60-1.70	0.06-0.33-0.60	0.08-0.11-0.13	0
Cincinnati--------------	0-8	5-11-26	60-70-80	14-19-24	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0
	8-24	5-8 -28	50-66-70	22-26-30	1.45-1.55-1.65	0.60-1.30-2.00	0.14-0.18-0.21	3
	24-74	10-26-40	40-51-60	20-23-26	1.60-1.73-1.85	0.01-0.06-0.20	0.06-0.07-0.08	0
	74-80	10-26-40	30-42-49	25-32-40	1.55-1.65-1.75	0.06-0.13-0.20	0.06-0.07-0.08	3
BlgC3:								
Blocher, severely eroded	0-5	3-15-25	50-61-80	16-24-26	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0
	5-18	5-10-25	45-62-75	20-28-30	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	0
	18-47	25-28-35	15-32-45	35-40-45	1.50-1.60-1.70	0.06-0.13-0.20	0.11-0.14-0.16	3
	47-64	25-34-38	20-31-48	30-35-40	1.50-1.60-1.70	0.06-0.13-0.20	0.11-0.14-0.16	3
	64-80	25-40-45	30-34-48	16-26-28	1.50-1.60-1.70	0.06-0.33-0.60	0.08-0.11-0.13	0
Cincinnati, severely eroded-----------------	0-5	3-8 -25	60-68-80	18-24-27	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0
	5-14	5-8 -25	50-66-70	22-26-30	1.45-1.55-1.65	0.60-1.30-2.00	0.14-0.18-0.21	3
	14-35	20-25-30	40-52-60	20-23-30	1.60-1.73-1.85	0.01-0.06-0.20	0.06-0.07-0.08	0
	35-78	20-26-35	30-42-49	25-32-39	1.55-1.65-1.75	0.06-0.13-0.20	0.06-0.07-0.08	3
	78-84	25-40-45	30-35-48	20-25-34	1.55-1.65-1.75	0.06-0.13-0.20	0.06-0.07-0.08	3

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	
BlkE2:								
Bonnell------------------	0-6	5-15-25	50-66-75	10-19-24	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0
	6-9	12-20-32	40-54-65	20-26-32	1.40-1.50-1.60	0.60-1.30-2.00	0.18-0.20-0.21	3
	9-44	15-20-35	31-38-45	35-42-48	1.50-1.60-1.70	0.20-0.50-2.00	0.11-0.13-0.15	6
	44-70	20-30-44	25-41-45	24-29-34	1.50-1.55-1.60	0.20-0.40-0.60	0.12-0.14-0.16	3
	70-80	25-40-50	24-34-40	18-26-34	1.60-1.70-1.80	0.06-0.33-0.60	0.04-0.08-0.12	3
Blocher------------------	0-6	5-15-25	50-68-83	12-17-24	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0
	6-22	5-10-25	45-62-75	20-28-30	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	0
	22-66	25-35-35	15-25-45	35-40-45	1.50-1.60-1.70	0.06-0.13-0.20	0.11-0.14-0.16	3
	66-76	25-34-35	20-31-50	30-35-40	1.50-1.60-1.70	0.06-0.13-0.20	0.11-0.14-0.16	3
	76-80	25-40-45	33-34-50	16-26-28	1.50-1.60-1.70	0.06-0.33-0.60	0.08-0.11-0.13	0
Hickory------------------	0-6	25-35-45	30-48-50	9-17-25	1.30-1.40-1.50	0.60-1.30-2.00	0.18-0.21-0.24	0
	6-38	20-30-45	30-39-50	24-31-35	1.45-1.55-1.65	0.60-1.30-2.00	0.15-0.17-0.19	3
	38-44	25-40-50	30-36-50	15-24-32	1.50-1.60-1.70	0.60-1.30-2.00	0.11-0.15-0.19	0
	44-80	25-40-60	25-40-50	15-20-30	1.50-1.63-1.75	0.60-1.30-2.00	0.10-0.13-0.15	0
BnjA:								
Bobtown------------------	0-9	70-77-85	8-18-20	3-5-9	1.40-1.55-1.70	6.00-13.00-20.00	0.07-0.08-0.09	0
	9-20	65-67-85	10-25-29	5-8-19	1.60-1.70-1.80	2.00-4.00-6.00	0.13-0.16-0.18	0
	20-52	55-62-65	10-19-25	18-19-26	1.60-1.70-1.80	0.60-1.30-2.00	0.16-0.17-0.18	0
	52-80	73-90-98	2-5 -15	2-5-12	1.60-1.70-1.80	6.00-13.00-20.00	0.08-0.09-0.10	0
BnuD3:								
Bonnell, severely eroded	0-3	20-23-35	31-47-50	27-30-34	1.40-1.50-1.60	0.60-1.30-2.00	0.12-0.15-0.18	3
	3-32	20-25-35	25-34-45	35-41-48	1.50-1.60-1.70	0.20-0.50-2.00	0.11-0.13-0.15	6
	32-54	20-31-45	25-39-45	24-30-34	1.50-1.55-1.60	0.20-0.40-0.60	0.12-0.14-0.16	3
	54-80	30-40-50	24-35-40	18-25-34	1.60-1.70-1.80	0.06-0.33-0.60	0.04-0.08-0.12	3
Hickory, severely eroded	0-4	20-30-40	26-39-50	27-31-34	1.40-1.50-1.60	0.60-1.30-2.00	0.12-0.15-0.18	3
	4-33	20-30-40	25-39-50	24-31-35	1.45-1.55-1.65	0.60-1.30-2.00	0.15-0.17-0.19	3
	33-40	25-40-50	25-36-45	15-24-32	1.50-1.60-1.70	0.60-1.30-2.00	0.11-0.15-0.19	0
	40-80	30-40-50	25-40-49	15-20-30	1.50-1.63-1.75	0.60-1.30-2.00	0.10-0.13-0.15	0
Blocher, severely eroded	0-4	5-15-25	50-61-80	16-24-26	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0
	4-18	5-10-25	45-62-75	20-28-30	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	0
	18-47	25-28-35	15-32-45	35-40-45	1.50-1.60-1.70	0.06-0.13-0.20	0.11-0.14-0.16	3
	47-64	25-34-38	20-31-48	30-35-40	1.50-1.60-1.70	0.06-0.13-0.20	0.11-0.14-0.16	3
	64-80	25-40-45	30-34-48	16-26-28	1.50-1.60-1.70	0.06-0.33-0.60	0.08-0.11-0.13	0

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	
BnxE2:								
Bonnell	0-6	5-15-25	50-66-75	10-19-24	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0
	6-9	12-20-32	40-54-65	20-26-32	1.40-1.50-1.60	0.60-1.30-2.00	0.18-0.20-0.21	3
	9-44	15-20-35	31-38-45	35-42-48	1.50-1.60-1.70	0.20-0.50-2.00	0.11-0.13-0.15	6
	44-70	20-30-44	25-41-45	24-29-34	1.50-1.55-1.60	0.20-0.40-0.60	0.12-0.14-0.16	3
	70-80	25-40-50	24-34-40	18-26-34	1.60-1.70-1.80	0.06-0.33-0.60	0.04-0.08-0.12	3
Grayford	0-7	5-12-20	50-69-80	12-19-26	1.20-1.43-1.65	0.60-1.30-2.00	0.18-0.21-0.24	0
	7-16	10-20-25	50-54-68	22-26-33	1.40-1.55-1.70	0.60-1.30-2.00	0.14-0.18-0.21	3
	16-45	20-28-35	26-42-56	24-30-39	1.35-1.50-1.65	0.60-1.30-2.00	0.12-0.14-0.16	3
	45-52	5-18-20	15-28-53	42-54-80	1.35-1.50-1.65	0.60-1.30-2.00	0.07-0.12-0.16	6
	52-60	---	---	---	---	0.20-5.81-20.00	---	
BnxE3:								
Bonnell, severely eroded	0-3	20-25-35	31-50-55	20-25-34	1.40-1.50-1.60	0.60-1.30-2.00	0.12-0.15-0.18	3
	3-32	20-25-35	25-34-45	35-41-48	1.50-1.60-1.70	0.20-0.50-2.00	0.11-0.13-0.15	6
	32-54	20-31-45	25-39-45	24-30-34	1.50-1.55-1.60	0.20-0.40-0.60	0.12-0.14-0.16	3
	54-80	30-40-50	24-35-40	18-25-34	1.60-1.70-1.80	0.06-0.33-0.60	0.04-0.08-0.12	3
Grayford, severely eroded	0-7	10-20-25	50-58-72	18-22-26	1.20-1.43-1.65	0.60-1.30-2.00	0.18-0.21-0.24	0
	7-12	10-20-25	50-54-68	22-26-33	1.40-1.55-1.70	0.60-1.30-2.00	0.14-0.18-0.21	3
	12-42	20-28-35	26-42-56	24-30-39	1.35-1.50-1.65	0.60-1.30-2.00	0.12-0.14-0.16	3
	42-49	5-18-20	15-28-53	42-54-80	1.35-1.50-1.65	0.60-1.30-2.00	0.07-0.12-0.16	6
	49-60	---	---	---	---	0.20-5.81-20.00	---	
BobE4:								
Bonnell, very severely eroded	0-3	20-23-35	31-47-50	27-30-34	1.40-1.50-1.60	0.60-1.30-2.00	0.12-0.15-0.18	3
	3-25	20-25-35	25-34-45	35-41-48	1.50-1.60-1.70	0.20-0.50-2.00	0.11-0.13-0.15	6
	25-38	20-31-45	25-39-45	24-30-34	1.50-1.55-1.60	0.20-0.40-0.60	0.12-0.14-0.16	3
	38-80	25-40-50	24-35-40	18-25-34	1.60-1.70-1.80	0.06-0.33-0.60	0.04-0.08-0.12	3
Hickory, very severely eroded	0-3	20-30-40	26-39-50	27-31-34	1.40-1.50-1.60	0.60-1.30-2.00	0.12-0.15-0.18	3
	3-35	20-30-40	25-39-50	24-31-35	1.45-1.55-1.65	0.60-1.30-2.00	0.15-0.17-0.19	3
	35-40	25-40-50	25-36-45	15-24-32	1.50-1.60-1.70	0.60-1.30-2.00	0.11-0.15-0.19	0
	40-80	30-40-50	25-40-49	15-20-30	1.50-1.63-1.75	0.60-1.30-2.00	0.10-0.13-0.15	0
BodAQ:								
Bonnie	0-8	5-10-15	60-71-80	18-19-26	1.30-1.40-1.50	0.60-1.30-2.00	0.22-0.24-0.25	0
	8-38	5-10-15	60-70-80	18-20-26	1.35-1.45-1.55	0.60-1.30-2.00	0.21-0.23-0.24	0
	38-60	5-10-20	50-66-75	18-24-30	1.35-1.45-1.55	0.20-0.40-0.60	0.14-0.19-0.24	0

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	
CcaG:								
Caneyville---------------	0-8	3-12-18	54-70-80	12-18-30	1.20-1.38-1.55	0.60-1.30-2.00	0.17-0.21-0.24	0
	8-14	5-10-15	50-59-70	24-31-38	1.40-1.50-1.70	0.60-1.30-2.00	0.13-0.17-0.21	3
	14-33	5-8 -15	25-39-55	40-53-60	1.35-1.50-1.65	0.20-0.40-0.60	0.06-0.11-0.16	6
	33-60	---	---	---	---	0.06-1.30-6.00	---	
Rock outcrop.								
CcbC2:								
Caneyville---------------	0-6	5-12-18	56-68-80	12-20-26	1.20-1.43-1.65	0.60-1.30-2.00	0.16-0.20-0.24	0
	6-10	5-10-15	50-59-70	24-31-38	1.40-1.50-1.70	0.60-1.30-2.00	0.13-0.17-0.21	3
	10-36	5-8 -15	25-39-55	40-53-60	1.35-1.50-1.65	0.20-0.40-0.60	0.06-0.11-0.16	6
	36-60	---	---	---	---	0.20-5.81-20.00	---	
Zenas--------------------	0-9	2-4 -10	65-75-80	15-21-25	1.20-1.43-1.65	0.60-1.30-2.00	0.18-0.22-0.24	0
	9-26	2-5 -10	52-62-70	25-33-37	1.40-1.50-1.65	0.60-1.30-2.00	0.14-0.19-0.21	3
	26-42	3-8 -12	26-37-45	40-55-70	1.35-1.40-1.65	0.60-1.30-2.00	0.06-0.12-0.15	3
	42-48	3-10-12	26-42-45	40-48-70	1.20-1.30-1.65	0.60-1.30-2.00	0.06-0.12-0.15	3
	48-80	---	---	---	---	0.20-5.81-19.98	---	
CcgD2:								
Caneyville---------------	0-8	5-12-18	57-70-80	12-18-25	1.20-1.38-1.55	0.60-1.30-2.00	0.17-0.21-0.24	0
	8-14	5-10-15	50-59-70	24-31-38	1.40-1.50-1.70	0.60-1.30-2.00	0.13-0.17-0.21	3
	14-33	5-8 -15	25-39-55	40-53-60	1.35-1.50-1.65	0.20-0.40-0.60	0.06-0.11-0.16	6
	33-60	---	---	---	---	0.06-1.30-5.98	---	
Grayford-----------------	0-7	5-12-20	50-69-80	12-19-26	1.20-1.43-1.65	0.60-1.30-2.00	0.18-0.21-0.24	0
	7-16	10-20-25	50-54-68	22-26-33	1.40-1.55-1.70	0.60-1.30-2.00	0.14-0.18-0.21	3
	16-45	20-28-35	26-42-56	24-30-39	1.35-1.50-1.65	0.60-1.30-2.00	0.12-0.14-0.16	3
	45-52	5-18-20	15-28-53	42-54-80	1.35-1.50-1.65	0.60-1.30-2.00	0.07-0.12-0.16	6
	52-60	---	---	---	---	0.06-1.30-6.00	---	
CcgD3:								
Caneyville, severely eroded-----------------	0-5	5-12-18	51-63-75	20-25-34	1.20-1.43-1.65	0.60-1.30-2.00	0.14-0.18-0.24	1
	5-24	5-8 -15	25-39-55	40-53-60	1.35-1.50-1.65	0.20-0.40-0.60	0.06-0.11-0.16	6
	24-60	---	---	---	---	0.06-1.30-6.00	---	
Grayford, severely eroded-----------------	0-7	10-20-25	50-58-72	18-22-26	1.20-1.43-1.65	0.60-1.30-2.00	0.18-0.21-0.24	0
	7-12	10-20-25	50-54-68	22-26-33	1.40-1.55-1.70	0.60-1.30-2.00	0.14-0.18-0.21	3
	12-42	20-28-35	26-42-56	24-30-39	1.35-1.50-1.65	0.60-1.30-2.00	0.12-0.14-0.16	3
	42-49	5-18-20	15-28-53	42-54-80	1.35-1.50-1.65	0.60-1.30-2.00	0.07-0.12-0.16	6
	49-60	---	---	---	---	0.06-1.30-6.00	---	

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	
CldB2:								
Cincinnati	0-8	5-11-26	60-70-80	14-19-24	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0
	8-31	5-8 -28	50-66-70	22-26-30	1.45-1.55-1.65	0.60-1.30-2.00	0.14-0.18-0.21	3
	31-72	10-26-40	40-51-60	20-23-26	1.60-1.73-1.85	0.01-0.06-0.20	0.06-0.07-0.08	0
	72-80	10-26-40	30-42-49	25-32-40	1.55-1.65-1.75	0.06-0.13-0.20	0.06-0.07-0.08	3
Blocher	0-7	5-15-25	50-67-80	12-18-22	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0
	7-32	5-10-25	45-62-75	20-28-30	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	0
	32-66	25-28-35	15-32-45	35-40-45	1.50-1.60-1.70	0.06-0.13-0.20	0.11-0.14-0.16	3
	66-76	25-34-38	20-31-48	30-35-40	1.50-1.60-1.70	0.06-0.13-0.20	0.11-0.14-0.16	3
	76-80	25-40-45	30-34-48	16-26-28	1.50-1.60-1.70	0.06-0.33-0.60	0.08-0.11-0.13	0
ClfA:								
Cobbsfork	0-12	12-17-24	61-70-78	10-13-15	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0
	12-18	12-17-24	56-65-78	10-18-20	1.35-1.45-1.55	0.60-1.30-2.00	0.20-0.22-0.24	0
	18-38	10-13-20	50-63-70	20-24-30	1.40-1.50-1.60	0.20-1.10-2.00	0.14-0.18-0.21	3
	38-50	18-19-28	44-60-62	20-21-28	1.60-1.70-1.80	0.01-0.18-0.20	0.08-0.12-0.15	0
	50-85	18-22-28	46-56-62	20-22-26	1.60-1.70-1.80	0.01-0.06-0.20	0.06-0.07-0.08	0
	85-90	25-28-35	27-39-48	27-33-38	1.50-1.60-1.70	0.01-0.06-0.06	0.06-0.07-0.08	3
CwaAQ:								
Cuba	0-10	7-9 -12	64-73-81	12-18-24	1.30-1.43-1.55	0.60-1.30-2.00	0.22-0.23-0.24	0
	10-47	7-9 -12	62-69-75	18-22-26	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.21-0.22	0
	47-60	10-31-67	25-52-75	8-17-26	1.35-1.48-1.60	0.60-3.30-6.00	0.10-0.16-0.22	0
CxdA:								
Cyclone	0-17	10-17-18	50-53-67	27-30-35	1.30-1.45-1.60	0.60-1.30-2.00	0.20-0.22-0.24	3
	17-52	2-12-19	44-57-66	25-31-35	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3
	52-58	16-20-40	44-49-66	20-31-35	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3
	58-65	26-35-44	38-45-49	15-20-25	1.50-1.60-1.70	0.20-0.40-0.60	0.12-0.14-0.16	0
	65-80	30-40-56	34-45-50	9-15-25	1.60-1.65-1.75	0.20-0.40-0.60	0.02-0.03-0.04	0
DfnA:								
Dubois	0-10	8-13-20	60-72-80	10-15-20	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0
	10-17	8-11-18	60-72-80	15-17-20	1.35-1.48-1.60	0.60-1.30-2.00	0.20-0.24-0.27	0
	17-38	5-10-12	50-61-70	25-29-34	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3
	38-82	5-10-30	40-65-70	15-25-32	1.65-1.73-1.80	0.01-0.06-0.20	0.06-0.07-0.08	0
	82-96	12-18-70	30-48-70	15-34-39	1.50-1.60-1.70	0.01-0.04-0.06	0.06-0.07-0.08	3
DfnB2:								
Dubois	0-6	8-13-20	60-72-80	10-15-20	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0
	6-10	8-11-18	60-72-80	15-17-20	1.35-1.48-1.60	0.60-1.30-2.00	0.20-0.24-0.27	0
	10-28	5-10-12	50-61-70	25-29-34	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3
	28-68	5-10-30	40-65-70	15-25-32	1.65-1.73-1.80	0.01-0.06-0.20	0.06-0.07-0.08	0
	68-80	12-18-70	30-48-70	15-34-39	1.50-1.60-1.70	0.01-0.04-0.06	0.06-0.07-0.08	3

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	
DtwC2:								
Deputy------------------	0-8	2-4 -10	64-77-86	12-19-26	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0
	8-27	2-6 -10	55-67-75	24-27-35	1.35-1.45-1.55	0.60-1.30-2.00	0.14-0.18-0.21	3
	27-53	2-11-20	30-44-50	40-45-50	1.40-1.50-1.60	0.06-0.13-0.20	0.08-0.12-0.16	3
	53-77	---	---	---	---	0.00-0.01-0.06	---	
	77-87	---	---	---	---	0.00-0.18-0.60	---	
DtzC3:								
Deputy, severely eroded	0-4	1-7 -15	50-65-78	25-28-33	1.20-1.38-1.55	0.60-1.30-2.00	0.15-0.19-0.23	0
	4-17	2-6 -10	55-64-74	24-30-35	1.35-1.45-1.55	0.60-1.30-2.00	0.14-0.18-0.21	3
	17-43	2-11-20	30-44-58	40-45-50	1.40-1.50-1.60	0.06-0.13-0.20	0.08-0.12-0.16	3
	43-60	---	---	---	---	0.00-0.01-0.06	---	
	60-80	---	---	---	---	0.00-0.18-0.60	---	
Trappist, severely eroded-----------------	0-6	1-7 -15	50-60-64	27-33-35	1.20-1.38-1.55	0.60-1.30-2.00	0.15-0.19-0.23	0
	6-21	1-6 -15	40-53-64	35-41-48	1.40-1.53-1.65	0.20-0.40-0.60	0.11-0.15-0.19	3
	21-24	5-8 -20	32-57-65	30-35-48	1.40-1.50-1.60	0.06-0.13-0.20	0.06-0.11-0.16	3
	24-40	---	---	---	---	0.00-0.18-0.60	---	
EepAQ:								
Elkinsville-------------	0-9	10-14-20	62-73-80	8-13-18	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0
	9-24	8-12-25	50-62-65	18-26-32	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3
	24-58	25-40-55	15-36-50	20-24-30	1.40-1.50-1.60	0.60-1.30-2.00	0.15-0.17-0.19	3
	58-68	29-40-70	20-36-47	16-24-31	1.40-1.50-1.60	0.60-1.30-2.00	0.12-0.16-0.19	3
	68-80	35-50-75	20-30-40	14-20-26	1.40-1.50-1.60	0.60-1.30-2.00	0.12-0.16-0.19	0
EesB2:								
Elkinsville-------------	0-8	8-19-22	52-62-80	12-19-22	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0
	8-34	8-13-20	50-59-74	18-28-32	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3
	34-60	25-40-55	15-39-49	20-21-30	1.40-1.50-1.60	0.60-1.30-2.00	0.15-0.17-0.19	3
	60-80	35-44-70	15-36-49	16-20-28	1.40-1.50-1.60	0.60-1.30-2.00	0.12-0.16-0.19	3
Millstone---------------	0-10	10-38-45	32-47-80	12-15-22	1.25-1.40-1.55	0.60-1.30-2.00	0.17-0.20-0.22	0
	10-62	35-40-65	7-41-55	14-19-28	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.17-0.19	0
	62-80	35-50-65	7-37-45	10-13-28	1.40-1.55-1.70	0.60-1.30-2.00	0.09-0.14-0.19	0
FdbA:								
Fincastle---------------	0-10	10-13-25	55-70-75	11-17-26	1.20-1.45-1.65	0.60-1.30-2.00	0.22-0.23-0.24	0
	10-13	10-13-25	55-70-75	11-17-26	1.20-1.45-1.65	0.60-1.30-2.00	0.22-0.23-0.24	0
	13-27	5-10-20	45-61-65	23-29-35	1.40-1.50-1.70	0.60-1.30-2.00	0.14-0.19-0.21	3
	27-50	25-40-50	25-32-45	25-28-32	1.50-1.60-1.70	0.60-1.30-2.00	0.12-0.16-0.16	3
	50-59	30-45-50	25-35-45	12-20-30	1.75-1.80-2.00	0.20-0.40-0.60	0.07-0.12-0.17	0
	59-80	35-45-60	20-40-50	12-15-26	1.75-1.80-2.00	0.01-0.03-0.20	0.02-0.03-0.04	0

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity
	In	Pct	Pct	Pct	g/cc	In/hr	In/in
FdqB:							
Fincastle----------------	0-10	10-13-25	55-70-75	11-17-26	1.20-1.45-1.65	0.60-1.30-2.00	0.22-0.23-0.24
	10-13	10-13-25	55-70-75	11-17-26	1.20-1.45-1.65	0.60-1.30-2.00	0.22-0.23-0.24
	13-27	5-10-20	45-61-65	23-29-35	1.40-1.50-1.70	0.60-1.30-2.00	0.14-0.19-0.21
	27-50	25-40-50	25-32-45	25-28-32	1.50-1.60-1.70	0.60-1.30-2.00	0.12-0.16-0.16
	50-59	30-45-50	25-35-45	12-20-30	1.75-1.80-2.00	0.20-0.40-0.60	0.07-0.12-0.17
	59-80	35-45-60	20-40-50	12-15-26	1.75-1.80-2.00	0.01-0.03-0.20	0.02-0.03-0.04
Xenia--------------------	0-8	10-10-25	55-74-75	11-16-20	1.20-1.45-1.65	0.60-1.30-2.00	0.22-0.23-0.24
	8-30	5-6 -20	45-63-65	27-31-35	1.40-1.50-1.70	0.60-1.30-2.00	0.17-0.19-0.20
	30-50	20-36-40	25-36-50	24-28-35	1.50-1.60-1.70	0.60-0.80-1.00	0.14-0.16-0.17
	50-58	25-37-50	25-43-50	20-20-30	1.50-1.60-1.70	0.20-0.40-0.60	0.07-0.12-0.17
	58-80	35-46-60	20-39-50	12-15-18	1.75-1.90-2.00	0.01-0.03-0.20	0.02-0.03-0.04
GmsF:							
Greybrook----------------	0-5	5-10-15	60-69-80	14-21-26	1.20-1.40-1.50	0.60-1.30-2.00	0.18-0.24-0.26
	5-15	5-10-15	60-65-75	15-25-26	1.35-1.50-1.65	0.60-1.30-2.00	0.17-0.23-0.26
	15-62	15-31-40	25-41-55	18-28-35	1.45-1.60-1.65	0.06-0.13-0.60	0.14-0.17-0.20
	62-80	20-45-60	25-29-55	18-26-35	1.45-1.55-1.65	0.06-0.13-0.20	0.13-0.17-0.20
HccB2:							
Haubstadt----------------	0-7	5-10-20	60-71-80	14-19-24	1.25-1.43-1.60	0.60-1.30-2.00	0.18-0.21-0.24
	7-32	5-7 -15	50-65-75	18-28-32	1.30-1.50-1.70	0.60-1.30-2.00	0.14-0.20-0.24
	32-61	7-15-30	40-60-70	22-25-32	1.60-1.73-1.85	0.01-0.06-0.20	0.06-0.07-0.08
	61-80	7-19-40	30-51-70	25-30-35	1.55-1.60-1.65	0.06-0.13-0.20	0.06-0.07-0.08
HcgAH:							
Haymond------------------	0-10	1-10-20	60-75-85	10-15-20	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24
	10-44	7-19-32	50-67-75	10-14-18	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24
	44-60	1-28-65	20-57-75	5-15-26	1.30-1.40-1.50	0.60-1.30-2.00	0.14-0.18-0.22
HcgAW:							
Haymond------------------	0-9	1-10-20	60-75-85	10-15-20	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24
	9-44	7-19-32	50-67-75	10-14-18	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24
	44-60	1-28-65	20-57-75	5-15-26	1.30-1.40-1.50	0.60-1.30-2.00	0.14-0.18-0.22
HcpAP:							
Haymond, frequently ponded, depression------	0-10	1-10-20	60-75-85	10-15-20	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24
	10-44	7-19-32	50-67-75	10-14-18	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24
	44-60	1-28-65	20-57-75	5-15-26	1.30-1.40-1.50	0.60-1.30-2.00	0.14-0.18-0.22

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity
	In	Pct	Pct	Pct	g/cc	In/hr	In/in
HeeG:							
Hickory	0-6	25-35-45	30-48-50	9-17-25	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.21-0.22
	6-38	20-30-45	30-39-50	24-31-35	1.45-1.55-1.65	0.60-1.30-2.00	0.15-0.17-0.19
	38-44	25-40-50	30-36-50	15-24-32	1.50-1.60-1.70	0.60-1.30-2.00	0.11-0.15-0.19
	44-80	25-40-60	25-40-50	15-20-30	1.50-1.63-1.75	0.60-1.30-2.00	0.10-0.13-0.15
HizE2:							
Hickory	0-6	25-35-45	30-48-50	9-17-25	1.30-1.40-1.50	0.60-1.30-2.00	0.18-0.21-0.24
	6-38	20-30-45	30-39-50	24-31-35	1.45-1.55-1.65	0.60-1.30-2.00	0.15-0.17-0.19
	38-44	25-40-50	30-36-50	15-24-32	1.50-1.60-1.70	0.60-1.30-2.00	0.11-0.15-0.19
	44-80	25-40-60	25-40-50	15-20-30	1.50-1.63-1.75	0.60-1.30-2.00	0.10-0.13-0.15
Grayford	0-7	5-12-20	50-69-80	12-19-26	1.20-1.43-1.65	0.60-1.30-2.00	0.18-0.21-0.24
	7-16	10-20-25	50-54-68	22-26-33	1.40-1.55-1.70	0.60-1.30-2.00	0.14-0.18-0.21
	16-45	20-28-35	26-42-56	24-30-39	1.35-1.50-1.65	0.60-1.30-2.00	0.12-0.14-0.16
	45-52	5-18-20	15-28-53	42-54-80	1.35-1.50-1.65	0.60-1.30-2.00	0.07-0.12-0.16
	52-60	---	---	---	---	0.06-1.30-6.00	---
HizE3:							
Hickory, severely eroded	0-4	20-30-40	26-39-50	27-31-34	1.40-1.50-1.60	0.60-1.30-2.00	0.12-0.15-0.18
	4-33	20-30-40	25-39-50	24-31-35	1.45-1.55-1.65	0.60-1.30-2.00	0.15-0.17-0.19
	33-40	25-40-50	25-36-45	15-24-32	1.50-1.60-1.70	0.60-1.30-2.00	0.11-0.15-0.19
	40-80	30-40-50	25-40-49	15-20-30	1.50-1.63-1.75	0.60-1.30-2.00	0.10-0.13-0.15
Grayford, severely eroded	0-7	10-20-25	50-58-72	18-22-26	1.20-1.43-1.65	0.60-1.30-2.00	0.18-0.21-0.24
	7-12	10-20-25	50-54-68	22-26-33	1.40-1.55-1.70	0.60-1.30-2.00	0.14-0.18-0.21
	12-42	20-28-35	26-42-56	24-30-39	1.35-1.50-1.65	0.60-1.30-2.00	0.12-0.14-0.16
	42-49	5-18-20	15-28-53	42-54-80	1.35-1.50-1.65	0.60-1.30-2.00	0.07-0.12-0.16
	49-60	---	---	---	---	0.06-1.30-6.00	---
HleAW:							
Holton	0-14	20-30-45	45-57-65	6-13-18	1.35-1.45-1.55	0.60-1.30-2.00	0.20-0.22-0.24
	14-41	25-55-70	25-32-55	6-13-18	1.35-1.45-1.55	0.60-1.30-2.00	0.14-0.18-0.22
	41-60	25-55-75	20-30-50	6-15-27	1.40-1.50-1.60	0.60-2.83-6.00	0.12-0.16-0.19
MhyB2:							
Medora	0-8	5-8 -15	60-74-83	12-18-24	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24
	8-21	5-6 -15	55-68-71	24-26-30	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21
	21-45	25-31-55	30-48-55	12-21-30	1.70-1.75-1.80	0.01-0.06-0.20	0.06-0.07-0.08
	45-80	30-46-60	12-18-40	27-36-44	1.40-1.50-1.60	0.20-1.10-2.00	0.06-0.07-0.08

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	
MhyC3:								
Medora, severely eroded	0-7	5-8 -15	59-70-79	16-22-26	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0
	7-16	5-6 -15	55-68-71	24-26-30	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3
	16-35	25-31-55	30-48-55	12-21-30	1.70-1.75-1.80	0.01-0.06-0.20	0.06-0.07-0.08	0
	35-80	30-46-60	12-18-40	27-36-44	1.40-1.50-1.60	0.20-1.10-2.00	0.06-0.07-0.08	3
MmoC3:								
Miami, severely eroded--	0-6	30-32-50	30-40-55	27-28-35	1.30-1.45-1.60	0.60-1.30-2.00	0.07-0.16-0.21	0
	6-29	15-31-40	30-38-50	27-31-35	1.40-1.55-1.70	0.60-1.30-2.00	0.07-0.14-0.21	3
	29-34	35-38-55	30-40-45	15-22-25	1.60-1.70-1.80	0.20-0.40-0.60	0.07-0.12-0.17	0
	34-80	35-45-60	30-40-50	10-15-20	1.75-1.85-2.00	0.01-0.03-0.20	0.01-0.02-0.03	0
MmoD3:								
Miami, severely eroded--	0-6	30-32-50	30-40-55	27-28-35	1.30-1.45-1.60	0.60-1.30-2.00	0.07-0.16-0.21	0
	6-29	15-31-40	30-38-50	27-31-35	1.40-1.55-1.70	0.60-1.30-2.00	0.07-0.14-0.21	3
	29-34	35-38-55	30-40-45	15-22-25	1.60-1.70-1.80	0.20-0.40-0.60	0.07-0.12-0.17	0
	34-80	35-45-60	30-40-50	10-15-20	1.75-1.85-2.00	0.01-0.03-0.20	0.01-0.02-0.03	0
MnpC2:								
Miami-------------------	0-7	9-22-37	51-63-78	7-15-26	1.30-1.45-1.60	0.60-1.30-2.00	0.20-0.22-0.24	0
	7-13	5-20-20	35-53-60	24-27-35	1.40-1.50-1.60	0.60-1.30-2.00	0.16-0.18-0.20	3
	13-31	15-31-40	30-38-50	27-31-35	1.40-1.55-1.70	0.60-1.30-2.00	0.07-0.14-0.21	3
	31-36	35-38-55	30-40-45	15-22-25	1.60-1.70-1.80	0.20-0.40-0.60	0.07-0.12-0.17	0
	36-80	35-45-60	30-40-50	10-15-20	1.75-1.85-2.00	0.01-0.03-0.20	0.01-0.02-0.03	0
MnpD2:								
Miami-------------------	0-7	9-22-37	51-63-78	7-15-26	1.30-1.45-1.60	0.60-1.30-2.00	0.20-0.22-0.24	0
	7-13	5-20-20	35-53-60	24-27-35	1.40-1.50-1.60	0.60-1.30-2.00	0.16-0.18-0.20	3
	13-31	15-31-40	30-38-50	27-31-35	1.40-1.55-1.70	0.60-1.30-2.00	0.07-0.14-0.21	3
	31-36	35-38-55	30-40-45	15-22-25	1.60-1.70-1.80	0.20-0.40-0.60	0.07-0.12-0.17	0
	36-80	35-45-60	30-40-50	10-15-20	1.75-1.85-2.00	0.01-0.03-0.20	0.01-0.02-0.03	0
NaaA:								
Nabb--------------------	0-10	10-17-28	56-72-80	8-11-16	1.30-1.40-1.50	0.60-1.30-2.00	0.18-0.21-0.24	0
	10-18	10-16-22	56-69-76	13-15-20	1.40-1.50-1.60	0.60-1.30-2.00	0.20-0.22-0.24	0
	18-35	10-13-18	52-60-70	20-27-30	1.50-1.58-1.65	0.60-1.30-2.00	0.14-0.18-0.21	3
	35-76	16-22-30	50-56-66	18-22-28	1.65-1.73-1.80	0.01-0.06-0.20	0.06-0.07-0.08	0
	76-80	26-28-40	22-41-48	24-31-38	1.60-1.65-1.70	0.01-0.03-0.06	0.06-0.07-0.08	3
NaaB2:								
Nabb--------------------	0-7	10-17-28	50-70-75	10-13-22	1.30-1.40-1.50	0.60-1.30-2.00	0.18-0.21-0.24	0
	7-13	10-16-22	58-69-77	13-15-20	1.40-1.50-1.60	0.60-1.30-2.00	0.20-0.22-0.24	0
	13-33	10-13-18	52-60-70	20-27-30	1.50-1.58-1.65	0.60-1.30-2.00	0.14-0.18-0.21	3
	33-71	16-22-30	50-56-66	18-22-28	1.65-1.73-1.80	0.01-0.06-0.20	0.06-0.07-0.08	0
	71-80	26-28-40	22-41-48	24-31-38	1.60-1.65-1.70	0.01-0.03-0.06	0.06-0.07-0.08	3

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	
OfaAW:								
Oldenburg	0-9	15-25-45	38-60-75	8-15-18	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24	0
	9-39	32-48-67	25-39-60	8-13-18	1.35-1.45-1.55	0.60-1.30-2.00	0.13-0.18-0.22	0
	39-60	40-70-80	15-24-42	5-6-18	1.35-1.45-1.55	0.60-3.26-6.00	0.09-0.14-0.19	0
OmkC2:								
Otwell	0-7	3-10-20	65-77-85	12-13-25	1.25-1.45-1.65	0.60-1.30-2.00	0.18-0.21-0.24	0
	7-27	5-10-20	55-64-73	22-26-35	1.40-1.50-1.60	0.20-1.10-2.00	0.14-0.18-0.21	3
	27-55	15-40-55	30-34-77	18-26-30	1.60-1.70-1.80	0.00-0.03-0.06	0.06-0.07-0.08	3
	55-80	10-43-60	20-35-70	15-22-35	1.50-1.58-1.65	0.00-0.10-0.20	0.06-0.07-0.08	3
OmkC3:								
Otwell, severely eroded	0-5	5-10-20	60-66-80	18-24-26	1.25-1.43-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0
	5-14	5-10-20	55-64-73	22-26-35	1.40-1.50-1.60	0.20-1.10-2.00	0.14-0.18-0.21	3
	14-52	15-40-55	30-34-77	18-26-30	1.60-1.70-1.80	0.00-0.03-0.06	0.06-0.07-0.08	3
	52-80	10-43-60	20-35-70	15-22-35	1.50-1.58-1.65	0.00-0.10-0.20	0.06-0.07-0.08	3
Omz.								
Orthents								
PcrA:								
Pekin	0-8	3-12-20	60-76-87	10-12-22	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0
	8-29	3-7 -18	52-71-79	18-22-30	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.19-0.21	0
	29-58	3-9 -18	50-65-77	20-26-32	1.70-1.75-1.80	0.01-0.18-0.20	0.06-0.07-0.08	0
	58-80	10-20-60	30-58-60	10-22-30	1.40-1.50-1.60	0.20-0.40-0.60	0.06-0.07-0.08	0
PcrB2:								
Pekin	0-9	3-12-20	60-73-87	10-15-22	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0
	9-24	3-7 -18	52-71-79	18-22-30	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.19-0.21	0
	24-45	3-9 -18	50-65-77	20-26-32	1.70-1.75-1.80	0.01-0.18-0.20	0.06-0.07-0.08	0
	45-80	10-20-60	30-58-60	10-22-30	1.40-1.50-1.60	0.20-0.40-0.60	0.06-0.07-0.08	0
PcrC2:								
Pekin, eroded	0-8	3-12-20	60-73-87	10-15-22	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0
	8-28	3-7 -18	52-71-79	18-22-30	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.19-0.21	0
	28-57	3-9 -18	50-65-77	20-26-32	1.70-1.75-1.80	0.01-0.18-0.20	0.06-0.07-0.08	0
	57-80	10-20-60	30-58-60	10-22-30	1.40-1.50-1.60	0.20-0.40-0.60	0.06-0.07-0.08	0
PhaA:								
Peoga	0-8	2-10-20	60-73-85	12-17-22	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0
	8-19	2-10-20	60-72-83	14-18-22	1.35-1.45-1.55	0.60-1.30-2.00	0.20-0.24-0.27	0
	19-36	5-11-25	50-63-75	18-26-34	1.40-1.48-1.55	0.20-0.40-0.60	0.14-0.19-0.24	0
	36-76	5-13-35	40-61-70	18-26-34	1.40-1.58-1.75	0.01-0.18-0.20	0.06-0.11-0.15	0
	76-80	5-13-35	40-59-70	22-28-34	1.35-1.45-1.55	0.01-0.13-0.20	0.06-0.08-0.10	0

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	
PlpAH:								
Piopolis----------------	0-10	1-2 -15	60-67-72	27-31-35	1.20-1.30-1.40	0.20-0.40-0.60	0.21-0.22-0.23	3
	10-31	1-5 -15	50-64-72	27-31-35	1.40-1.50-1.60	0.20-0.40-0.60	0.18-0.19-0.20	3
	31-60	1-5 -19	50-64-74	25-31-38	1.50-1.60-1.70	0.06-0.13-0.20	0.18-0.19-0.20	3
PlpAHU:								
Piopolis, undrained-----	0-10	1-2 -15	60-67-72	27-31-35	1.20-1.30-1.40	0.20-0.40-0.60	0.21-0.22-0.23	3
	10-31	1-5 -15	50-64-72	27-31-35	1.40-1.50-1.60	0.20-0.40-0.60	0.18-0.19-0.20	3
	31-60	1-5 -19	50-64-74	25-31-38	1.50-1.60-1.70	0.06-0.13-0.20	0.18-0.19-0.20	3
Pml.								
Pits, quarry								
RptG:								
Rohan-------------------	0-4	4-8 -20	54-72-81	15-20-26	1.20-1.35-1.50	0.60-1.30-2.00	0.10-0.13-0.16	0
	4-16	4-8 -20	50-66-78	18-26-34	1.20-1.40-1.60	0.20-1.10-2.00	0.04-0.07-0.10	0
	16-40	---	---	---	---	0.00-0.18-0.60	---	
Jessietown--------------	0-5	5-8 -15	60-72-83	12-20-26	1.20-1.30-1.40	0.60-1.30-2.00	0.18-0.21-0.23	0
	5-23	1-4 -15	50-68-79	20-28-34	1.20-1.35-1.50	0.60-1.30-2.00	0.16-0.18-0.23	0
	23-30	5-9 -15	40-51-60	27-40-45	1.20-1.35-1.50	0.60-1.30-2.00	0.06-0.11-0.18	0
	30-40	---	---	---	---	0.00-0.18-0.60	---	
RywB2:								
Russell-----------------	0-8	8-10-25	55-76-80	11-14-20	1.20-1.45-1.65	0.60-1.30-2.00	0.22-0.23-0.24	0
	8-13	5-5 -20	55-66-75	25-29-33	1.40-1.55-1.70	0.60-1.30-2.00	0.17-0.19-0.20	3
	13-28	5-5 -25	55-66-75	27-29-33	1.50-1.60-1.70	0.60-1.30-2.00	0.14-0.16-0.17	3
	28-52	20-36-40	25-36-50	23-28-33	1.50-1.60-1.70	0.60-1.30-2.00	0.14-0.16-0.17	3
	52-58	25-40-50	25-36-50	20-24-30	1.50-1.60-1.70	0.20-0.40-0.60	0.07-0.12-0.17	0
	58-80	35-48-60	20-37-50	12-15-18	1.75-1.90-2.00	0.01-0.11-0.20	0.02-0.03-0.04	0
RzfA:								
Ryker, terrace----------	0-9	1-6 -10	70-79-87	12-15-20	1.30-1.48-1.65	0.60-1.30-2.00	0.18-0.21-0.24	0
	9-12	2-5 -10	64-74-80	18-21-26	1.35-1.50-1.60	0.60-1.30-2.00	0.20-0.21-0.27	0
	12-30	2-7 -10	58-66-78	22-27-32	1.40-1.55-1.70	0.60-1.30-2.00	0.14-0.17-0.21	3
	30-73	10-18-35	25-52-68	22-30-38	1.40-1.53-1.65	0.60-1.30-2.00	0.12-0.16-0.20	3
	73-120	15-25-35	25-40-53	22-35-80	1.35-1.50-1.65	0.60-1.30-2.00	0.07-0.12-0.16	6
Muscatatuck, terrace----	0-10	5-11-26	60-70-80	14-19-24	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0
	10-25	5-8 -28	50-68-70	22-24-30	1.45-1.55-1.65	0.60-1.30-2.00	0.14-0.18-0.21	3
	25-36	10-18-40	40-59-65	20-23-26	1.60-1.73-1.85	0.01-0.18-0.20	0.06-0.07-0.08	0
	36-67	10-18-40	30-52-68	22-30-38	1.40-1.53-1.65	0.60-1.30-2.00	0.12-0.16-0.20	3
	67-120	15-25-35	25-40-53	22-35-80	1.35-1.50-1.65	0.60-1.30-2.00	0.07-0.12-0.16	6

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	
RzfB2:								
Ryker, terrace----------	0-7	1-6 -10	70-79-87	12-15-20	1.30-1.48-1.65	0.60-1.30-2.00	0.18-0.21-0.24	0
	7-9	2-5 -10	64-74-80	18-21-26	1.35-1.50-1.60	0.60-1.30-2.00	0.20-0.21-0.27	0
	9-30	2-7 -10	58-66-78	22-27-32	1.40-1.55-1.70	0.60-1.30-2.00	0.14-0.17-0.21	3
	30-73	10-18-35	25-52-68	22-30-38	1.40-1.53-1.65	0.60-1.30-2.00	0.12-0.16-0.20	3
	73-120	15-25-35	25-40-53	22-35-80	1.35-1.50-1.65	0.60-1.30-2.00	0.07-0.12-0.16	6
Muscatatuck, terrace----	0-8	5-11-26	60-70-80	14-19-24	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0
	8-25	5-8 -28	50-68-70	22-24-30	1.45-1.55-1.65	0.60-1.30-2.00	0.14-0.18-0.21	3
	25-36	10-18-40	40-59-65	20-23-26	1.60-1.73-1.85	0.01-0.18-0.20	0.06-0.07-0.08	0
	36-67	10-18-40	30-52-68	22-30-38	1.40-1.53-1.65	0.60-1.30-2.00	0.12-0.16-0.20	3
	67-120	15-25-35	25-40-53	22-35-80	1.35-1.50-1.65	0.60-1.30-2.00	0.07-0.12-0.16	6
RzgA:								
Ryker-------------------	0-9	1-6 -10	70-79-87	12-15-20	1.30-1.48-1.65	0.60-1.30-2.00	0.18-0.21-0.24	0
	9-12	2-5 -10	64-74-80	18-21-26	1.35-1.50-1.60	0.60-1.30-2.00	0.20-0.21-0.27	0
	12-38	2-7 -10	58-66-78	22-27-32	1.40-1.55-1.70	0.60-1.30-2.00	0.14-0.17-0.21	3
	38-67	10-18-35	25-52-68	22-30-38	1.40-1.53-1.65	0.60-1.30-2.00	0.12-0.16-0.20	3
	67-80	1-5 -10	15-40-59	40-55-75	1.35-1.50-1.65	0.60-1.30-2.00	0.06-0.11-0.16	6
Muscatatuck-------------	0-8	5-11-26	60-70-80	14-19-24	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0
	8-25	5-8 -28	50-68-70	22-24-30	1.45-1.55-1.65	0.60-1.30-2.00	0.14-0.18-0.21	3
	25-36	10-18-40	40-59-65	20-23-26	1.60-1.73-1.85	0.01-0.18-0.20	0.06-0.07-0.08	0
	36-49	10-18-40	30-52-68	22-30-38	1.40-1.53-1.65	0.60-1.30-2.00	0.12-0.16-0.20	3
	49-80	10-25-35	25-40-68	22-33-38	1.40-1.53-1.65	0.60-1.30-2.00	0.12-0.16-0.20	3
RzgB2:								
Ryker-------------------	0-6	1-6 -10	66-75-87	15-19-24	1.30-1.48-1.65	0.60-1.30-2.00	0.18-0.21-0.24	0
	6-10	2-5 -10	64-74-80	18-21-26	1.35-1.50-1.60	0.60-1.30-2.00	0.20-0.21-0.27	0
	10-34	2-7 -10	58-66-78	22-27-32	1.40-1.55-1.70	0.60-1.30-2.00	0.14-0.17-0.21	3
	34-63	10-18-35	25-52-68	22-30-38	1.40-1.53-1.65	0.60-1.30-2.00	0.12-0.16-0.20	3
	63-80	1-5 -10	15-40-59	40-55-75	1.35-1.50-1.65	0.60-1.30-2.00	0.06-0.11-0.16	6
Muscatatuck-------------	0-8	5-11-26	60-70-80	14-19-24	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0
	8-25	5-8 -28	50-68-70	22-24-30	1.45-1.55-1.65	0.60-1.30-2.00	0.14-0.18-0.21	3
	25-36	10-18-40	40-59-65	20-23-26	1.60-1.73-1.85	0.01-0.18-0.20	0.06-0.07-0.08	0
	36-49	10-18-40	30-52-68	22-30-38	1.40-1.53-1.65	0.60-1.30-2.00	0.12-0.16-0.20	3
	49-80	10-25-35	25-40-68	22-33-38	1.40-1.53-1.65	0.60-1.30-2.00	0.12-0.16-0.20	3
RzgC2:								
Ryker-------------------	0-8	1-6 -10	66-75-87	15-19-24	1.30-1.48-1.65	0.60-1.30-2.00	0.18-0.21-0.24	0
	8-32	2-7 -10	58-66-78	22-27-32	1.40-1.55-1.70	0.60-1.30-2.00	0.14-0.17-0.21	3
	32-58	10-18-35	25-52-68	22-30-38	1.40-1.53-1.65	0.60-1.30-2.00	0.12-0.16-0.20	3
	58-78	1-5 -10	15-40-59	40-55-75	1.35-1.50-1.65	0.60-1.30-2.00	0.06-0.11-0.16	6
	78-80	---	---	---	---	0.20-5.81-19.98	---	

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	
RzgC2:								
Muscatatuck--------------	0-8	5-11-26	60-70-80	14-19-24	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0
	8-25	5-8 -28	50-68-70	22-24-30	1.45-1.55-1.65	0.60-1.30-2.00	0.14-0.18-0.21	3
	25-36	10-18-40	40-59-65	20-23-26	1.60-1.73-1.85	0.01-0.18-0.20	0.06-0.07-0.08	0
	36-49	10-18-40	30-52-68	22-30-38	1.40-1.53-1.65	0.60-1.30-2.00	0.12-0.16-0.20	3
	49-80	10-25-35	25-40-68	22-33-38	1.40-1.53-1.65	0.60-1.30-2.00	0.12-0.16-0.20	3
RzhC3:								
Ryker, severely eroded--	0-7	1-6 -10	64-71-79	20-23-26	1.30-1.48-1.65	0.60-1.30-2.00	0.18-0.21-0.24	0
	7-25	2-7 -10	58-66-78	22-27-32	1.40-1.55-1.70	0.60-1.30-2.00	0.14-0.17-0.21	3
	25-54	10-18-35	25-52-68	22-30-38	1.40-1.53-1.65	0.60-1.30-2.00	0.12-0.16-0.20	3
	54-78	1-5 -10	15-40-59	40-55-75	1.35-1.50-1.65	0.60-1.30-2.00	0.06-0.11-0.16	6
	78-80	---	---	---	---	0.20-5.81-20.00	---	
Grayford, severely eroded------------------	0-7	10-38-45	32-39-72	12-23-26	1.25-1.40-1.55	0.60-1.30-2.00	0.17-0.20-0.22	0
	7-12	10-20-25	50-54-68	22-26-33	1.40-1.55-1.70	0.60-1.30-2.00	0.14-0.18-0.21	3
	12-42	20-28-35	26-42-56	24-30-39	1.35-1.50-1.65	0.60-1.30-2.00	0.12-0.14-0.16	3
	42-52	5-18-20	15-28-53	42-54-80	1.35-1.50-1.65	0.60-1.30-2.00	0.07-0.12-0.16	6
	52-60	---	---	---	---	0.20-5.81-20.00	---	
Muscatatuck, severely eroded------------------	0-4	5-11-26	60-67-80	14-22-24	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0
	4-22	5-8 -28	50-68-70	22-24-30	1.45-1.55-1.65	0.60-1.30-2.00	0.14-0.18-0.21	3
	22-33	10-18-40	40-59-65	20-23-26	1.60-1.73-1.85	0.01-0.18-0.20	0.06-0.07-0.08	0
	33-46	10-18-40	30-52-68	22-30-38	1.40-1.53-1.65	0.60-1.30-2.00	0.12-0.16-0.20	3
	46-80	10-16-25	15-42-70	25-42-65	1.35-1.50-1.65	0.60-1.30-2.00	0.06-0.11-0.16	6
SceA:								
Scottsburg---------------	0-8	8-14-20	60-69-80	12-17-24	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0
	8-31	8-10-15	50-63-71	24-27-30	1.50-1.55-1.60	0.60-1.30-2.00	0.14-0.19-0.24	3
	31-53	12-13-18	40-56-64	24-31-34	1.60-1.65-1.70	0.01-0.18-0.20	0.08-0.11-0.14	3
	53-61	2-5 -8	40-50-58	35-45-55	1.50-1.55-1.60	0.06-0.18-0.20	0.08-0.11-0.14	3
	61-67	---	---	---	---	0.00-0.01-0.06	---	
	67-80	---	---	---	---	0.00-0.18-0.60	---	
ScfB2:								
Scottsburg---------------	0-8	8-14-20	60-69-80	12-17-24	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0
	8-31	8-10-15	50-63-71	24-27-30	1.50-1.55-1.60	0.60-1.30-2.00	0.14-0.19-0.24	3
	31-53	12-13-18	40-56-64	24-31-34	1.60-1.65-1.70	0.01-0.18-0.20	0.08-0.11-0.14	3
	53-61	2-5 -8	40-50-58	35-45-55	1.50-1.55-1.60	0.06-0.18-0.20	0.08-0.11-0.14	3
	61-67	---	---	---	---	0.00-0.01-0.06	---	
	67-80	---	---	---	---	0.00-0.18-0.60	---	

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	
ScfB2:								
Deputy------------------	0-8	2-4 -10	64-77-86	12-19-26	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0
	8-27	2-5 -10	55-64-75	24-31-35	1.35-1.45-1.55	0.60-1.30-2.00	0.14-0.18-0.21	3
	27-53	2-11-20	30-44-50	40-45-50	1.40-1.50-1.60	0.06-0.13-0.20	0.08-0.12-0.16	3
	53-77	---	---	---	---	0.00-0.01-0.06	---	
	77-87	---	---	---	---	0.00-0.18-0.60	---	
SifE:								
Senachwine--------------	0-8	20-40-45	40-45-55	10-15-26	1.30-1.45-1.60	0.60-1.30-2.00	0.17-0.20-0.22	0
	8-26	15-42-45	25-30-50	27-28-32	1.30-1.45-1.60	0.60-1.30-2.00	0.17-0.20-0.22	0
	26-32	25-44-45	25-30-50	20-26-30	1.50-1.60-1.70	0.60-1.30-2.00	0.12-0.14-0.16	3
	32-80	25-46-60	20-39-45	10-15-18	1.60-1.70-1.80	0.01-0.10-0.20	0.02-0.03-0.04	0
SifG:								
Senachwine--------------	0-6	20-40-45	40-45-55	10-15-26	1.30-1.45-1.60	0.60-1.30-2.00	0.17-0.20-0.22	0
	6-26	15-42-45	25-30-50	27-28-32	1.30-1.45-1.60	0.60-1.30-2.00	0.17-0.20-0.22	0
	26-32	25-44-45	25-30-50	20-26-30	1.50-1.60-1.70	0.60-1.30-2.00	0.12-0.14-0.16	3
	32-80	25-46-60	20-39-45	10-15-18	1.60-1.70-1.80	0.01-0.10-0.20	0.02-0.03-0.04	0
SldAW:								
Shoals------------------	0-8	15-26-40	40-52-60	10-22-26	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24	0
	8-33	20-40-55	25-35-55	15-25-33	1.40-1.50-1.60	0.60-1.30-2.00	0.15-0.19-0.22	0
	33-60	20-55-90	5-30-55	5-15-28	1.45-1.55-1.65	0.60-3.30-5.95	0.05-0.13-0.20	0
StaAH:								
Steff-------------------	0-10	3-8 -15	65-78-85	10-14-20	1.30-1.40-1.50	0.60-1.30-2.00	0.18-0.22-0.24	0
	10-31	3-8 -20	62-77-85	12-15-18	1.30-1.43-1.55	0.60-1.30-2.00	0.18-0.21-0.23	0
	31-60	3-10-55	35-74-85	10-16-25	1.40-1.53-1.65	0.60-3.30-6.00	0.08-0.15-0.21	0
StaAQ:								
Steff-------------------	0-11	3-6 -15	65-81-87	10-13-25	1.30-1.40-1.50	0.60-1.30-2.00	0.18-0.22-0.24	0
	11-41	3-8 -20	50-74-85	12-18-30	1.30-1.43-1.55	0.60-1.30-2.00	0.18-0.21-0.23	0
	41-60	3-10-55	35-70-75	10-20-25	1.40-1.53-1.65	0.60-1.84-6.00	0.08-0.15-0.21	0
StdAH:								
Stendal-----------------	0-11	3-6 -15	65-78-85	12-16-26	1.30-1.43-1.55	0.60-1.30-2.00	0.22-0.23-0.24	0
	11-41	3-8 -20	62-69-79	18-23-34	1.35-1.45-1.55	0.60-1.30-2.00	0.20-0.21-0.22	0
	41-60	3-10-45	40-67-75	15-23-34	1.35-1.45-1.55	0.60-1.30-2.00	0.20-0.21-0.22	0
StdAQ:								
Stendal-----------------	0-8	3-6 -15	60-78-85	12-16-26	1.30-1.43-1.55	0.60-1.30-2.00	0.22-0.23-0.24	0
	8-40	3-8 -20	62-69-79	18-23-34	1.35-1.45-1.55	0.60-1.30-2.00	0.20-0.21-0.22	0
	40-60	3-10-45	40-67-75	15-23-34	1.35-1.45-1.55	0.60-1.30-2.00	0.20-0.21-0.22	0

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	
SuoAH:								
Stonelick	0-10	52-63-75	15-28-40	8-9-18	1.30-1.45-1.60	2.00-4.00-6.00	0.13-0.14-0.15	0
	10-60	42-63-90	10-28-40	0-9-18	1.50-1.60-1.70	2.00-4.00-6.00	0.11-0.12-0.13	0
ThbD4:								
Trappist, very severely eroded	0-3	1-7 -20	41-60-72	27-33-39	1.35-1.45-1.55	0.60-1.30-2.00	0.12-0.16-0.20	0
	3-20	1-6 -20	40-53-64	35-41-48	1.40-1.53-1.65	0.20-0.40-0.60	0.11-0.15-0.19	3
	20-30	---	---	---	---	0.00-0.01-0.06	---	
	30-40	---	---	---	---	0.00-0.18-0.60	---	
ThcD3:								
Trappist, severely eroded	0-4	1-7 -15	50-60-64	27-33-35	1.20-1.38-1.55	0.60-1.30-2.00	0.15-0.19-0.23	0
	4-21	1-6 -15	40-53-64	35-41-48	1.40-1.53-1.65	0.20-0.40-0.60	0.11-0.15-0.19	3
	21-27	5-8 -20	32-57-65	30-35-48	1.40-1.50-1.60	0.06-0.13-0.20	0.06-0.11-0.16	3
	27-40	---	---	---	---	0.00-0.18-0.60	---	
Rohan, severely eroded	0-3	4-8 -20	50-64-69	27-28-32	1.20-1.35-1.50	0.60-1.30-2.00	0.10-0.13-0.16	0
	3-12	4-8 -20	50-64-78	18-28-34	1.20-1.40-1.60	0.20-1.10-2.00	0.04-0.07-0.10	0
	12-40	---	---	---	---	0.00-0.18-0.60	---	
ThdD2:								
Trappist	0-6	1-7 -15	63-75-85	14-18-22	1.20-1.38-1.55	0.60-1.30-2.00	0.18-0.21-0.24	0
	6-30	1-6 -15	40-53-64	35-41-48	1.40-1.53-1.65	0.20-0.40-0.60	0.11-0.15-0.19	3
	30-35	5-8 -20	32-57-65	30-35-48	1.40-1.50-1.60	0.06-0.13-0.20	0.06-0.11-0.16	3
	35-45	---	---	---	---	0.00-0.18-0.60	---	
Rohan	0-3	4-8 -20	60-72-81	15-20-26	1.20-1.30-1.40	0.60-1.30-2.00	0.12-0.15-0.18	0
	3-16	4-8 -20	50-66-78	18-26-34	1.20-1.40-1.60	0.20-1.10-2.00	0.04-0.07-0.10	0
	16-40	---	---	---	---	0.00-0.18-0.60	---	
Uby.								
Udorthents, loamy								
UdaB:								
Urban land.								
Deputy	0-8	2-4 -10	64-77-86	12-19-26	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0
	8-27	2-6 -10	55-67-75	24-27-35	1.35-1.45-1.55	0.60-1.30-2.00	0.14-0.18-0.21	3
	27-53	2-11-20	30-44-50	40-45-50	1.40-1.50-1.60	0.06-0.13-0.20	0.08-0.12-0.16	3
	53-77	---	---	---	---	0.00-0.01-0.06	---	
	77-87	---	---	---	---	0.00-0.18-0.60	---	

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	
UdaB:								
Scottsburg	0-8	8-14-20	60-69-80	12-17-24	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0
	8-31	8-10-15	50-63-71	24-27-30	1.50-1.55-1.60	0.60-1.30-2.00	0.14-0.19-0.24	3
	31-53	12-13-18	40-56-64	24-31-34	1.60-1.65-1.70	0.01-0.18-0.20	0.08-0.11-0.14	3
	53-61	2-5 -8	40-50-58	35-45-55	1.50-1.55-1.60	0.06-0.18-0.20	0.08-0.11-0.14	3
	61-67	---	---	---	---	0.00-0.01-0.06	---	
	67-80	---	---	---	---	0.00-0.18-0.60	---	
UfcB:								
Urban land.								
Cincinnati	0-8	5-11-26	60-70-80	14-19-24	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0
	8-24	5-8 -28	50-66-70	22-26-30	1.45-1.55-1.65	0.60-1.30-2.00	0.14-0.18-0.21	3
	24-74	10-26-40	40-51-60	20-23-26	1.60-1.73-1.85	0.01-0.06-0.20	0.06-0.07-0.08	0
	74-80	10-26-40	30-42-49	25-32-39	1.55-1.65-1.75	0.06-0.13-0.20	0.06-0.07-0.08	3
Nabb	0-7	10-17-28	50-68-75	8-15-22	1.30-1.40-1.50	0.60-1.30-2.00	0.18-0.21-0.24	0
	7-13	10-16-22	56-69-73	14-15-22	1.40-1.50-1.60	0.60-1.30-2.00	0.20-0.22-0.24	0
	13-33	10-13-18	52-60-73	20-27-30	1.50-1.58-1.65	0.60-1.30-2.00	0.14-0.18-0.21	3
	33-71	16-22-30	50-56-66	18-22-28	1.65-1.73-1.80	0.01-0.06-0.20	0.06-0.07-0.08	0
	71-80	26-28-40	22-41-48	24-31-38	1.60-1.65-1.70	0.01-0.03-0.06	0.06-0.07-0.08	3
UfdA:								
Urban land.								
Cobbsfork	0-12	12-17-24	61-70-78	10-13-15	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0
	12-18	12-17-24	50-65-78	10-18-26	1.35-1.45-1.55	0.60-1.30-2.00	0.20-0.22-0.24	0
	18-38	10-13-20	50-63-70	20-24-30	1.40-1.50-1.60	0.20-1.10-2.00	0.14-0.18-0.21	3
	38-50	18-19-28	44-60-62	20-21-28	1.60-1.70-1.80	0.06-0.13-0.20	0.08-0.12-0.15	0
	50-85	18-22-28	46-56-62	20-22-26	1.60-1.70-1.80	0.01-0.06-0.06	0.06-0.07-0.08	0
	85-90	25-28-35	27-39-48	27-33-38	1.50-1.60-1.70	0.01-0.06-0.06	0.06-0.07-0.08	3
Avonburg	0-11	15-18-20	62-67-75	10-15-18	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0
	11-21	15-18-20	60-66-73	12-16-20	1.35-1.45-1.55	0.60-1.30-2.00	0.20-0.22-0.24	0
	21-37	5-11-20	50-62-71	24-27-30	1.40-1.50-1.60	0.06-0.33-0.60	0.14-0.18-0.21	3
	37-52	5-20-20	52-56-73	22-24-28	1.60-1.65-1.70	0.01-0.18-0.20	0.09-0.10-0.11	0
	52-83	15-20-30	50-56-65	20-24-26	1.70-1.75-1.80	0.01-0.06-0.20	0.06-0.07-0.08	0
	83-90	20-30-40	30-36-40	27-34-40	1.50-1.60-1.70	0.06-0.13-0.20	0.06-0.07-0.08	3
Usl.								
Udorthents, rubbish								
W.								
Water								

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	
WaaAH:								
Wakeland----------------	0-7	3-12-20	62-75-85	10-13-18	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24	0
	7-29	3-13-20	62-73-85	10-14-18	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24	0
	29-60	3-20-45	40-66-75	10-14-20	1.30-1.40-1.50	0.60-1.30-2.00	0.18-0.21-0.24	0
WaaAW:								
Wakeland----------------	0-7	3-12-20	62-75-85	10-13-18	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24	0
	7-29	3-13-20	62-73-85	10-14-18	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24	0
	29-60	5-20-45	40-66-75	10-14-20	1.30-1.40-1.50	0.60-1.30-2.00	0.18-0.21-0.24	0
WnmA:								
Whitcomb----------------	0-9	4-7 -12	64-72-84	12-21-24	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0
	9-15	4-5 -12	62-70-76	20-25-26	1.40-1.50-1.60	0.60-1.30-2.00	0.20-0.22-0.24	0
	15-30	4-4 -12	56-68-72	24-28-32	1.50-1.55-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3
	30-48	5-5 -12	53-63-68	27-32-35	1.60-1.65-1.70	0.01-0.18-0.20	0.09-0.11-0.15	3
	48-56	5-7 -10	40-53-60	35-40-50	1.50-1.55-1.60	0.06-0.13-0.20	0.09-0.11-0.15	3
	56-61	5-7 -10	45-56-60	35-37-45	1.50-1.55-1.60	0.06-0.13-0.20	0.09-0.11-0.15	3
	61-80	---	---	---	---	0.00-0.18-0.60	---	
WokAH:								
Wilbur------------------	0-7	1-9 -15	67-77-85	10-14-18	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24	0
	7-32	5-12-20	62-72-85	10-16-18	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24	0
	32-60	5-17-45	40-67-78	10-16-26	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.21-0.22	0
WokAW:								
Wilbur------------------	0-7	1-9 -15	67-77-85	10-14-18	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24	0
	7-32	5-12-20	62-72-85	10-16-18	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24	0
	32-60	5-17-45	40-67-78	10-16-26	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.21-0.22	0
WooAQ:								
Wilhite-----------------	0-15	3-12-20	62-75-85	10-13-18	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24	0
	15-26	2-5 -10	40-53-58	40-42-50	1.40-1.50-1.60	0.06-0.13-0.20	0.12-0.15-0.18	3
	26-49	2-5 -10	40-51-63	35-44-50	1.40-1.50-1.60	0.06-0.13-0.20	0.08-0.13-0.18	3
	49-60	5-7 -15	40-51-60	35-42-50	1.40-1.50-1.60	0.01-0.04-0.06	0.08-0.13-0.18	3
WprAV:								
Wirt--------------------	0-8	27-41-50	35-45-55	10-14-18	1.30-1.43-1.55	0.60-1.30-2.00	0.19-0.22-0.24	0
	8-38	27-41-60	22-43-55	7-16-18	1.40-1.48-1.55	0.60-1.30-2.00	0.11-0.16-0.20	0
	38-60	32-55-80	10-35-50	4-10-18	1.45-1.53-1.60	0.60-3.30-6.00	0.07-0.13-0.19	0
WprAW:								
Wirt--------------------	0-8	27-41-55	35-45-55	10-14-18	1.30-1.43-1.55	0.60-1.30-2.00	0.19-0.22-0.24	0
	8-38	27-41-60	22-43-55	7-16-18	1.40-1.48-1.55	0.60-1.30-2.00	0.11-0.16-0.20	0
	38-60	32-55-80	10-35-50	4-10-18	1.45-1.53-1.60	0.60-3.30-6.00	0.07-0.13-0.19	0

Table 17.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	
WpuAH:								
Wirt--------------------	0-8	15-30-45	37-54-75	10-16-18	1.30-1.43-1.55	0.60-1.30-2.00	0.19-0.22-0.24	0
	8-38	20-41-75	15-43-65	7-16-18	1.40-1.48-1.55	0.60-1.30-2.00	0.11-0.16-0.20	0
	38-60	32-55-80	10-35-50	4-10-18	1.45-1.53-1.60	0.60-3.30-6.00	0.07-0.13-0.19	0
WufB2:								
Williamstown------------	0-9	10-19-25	50-61-70	14-20-26	1.30-1.45-1.60	0.60-1.30-2.00	0.20-0.23-0.24	0
	9-33	15-35-45	20-35-55	27-30-35	1.50-1.60-1.70	0.60-1.30-2.00	0.12-0.14-0.16	3
	33-37	25-45-60	20-35-50	18-20-27	1.60-1.70-1.80	0.20-0.40-0.60	0.04-0.12-0.12	0
	37-80	35-45-60	20-40-50	12-15-26	1.75-1.80-2.00	0.01-0.03-0.20	0.02-0.03-0.04	0
XabB2:								
Xenia-------------------	0-8	10-10-25	55-74-75	11-16-20	1.20-1.45-1.65	0.60-1.30-2.00	0.22-0.23-0.24	0
	8-30	5-6 -20	45-63-65	27-31-35	1.40-1.50-1.70	0.60-1.30-2.00	0.17-0.19-0.20	3
	30-50	20-36-40	25-36-50	24-28-35	1.50-1.60-1.70	0.60-0.80-1.00	0.14-0.16-0.17	3
	50-58	25-37-50	25-43-50	20-20-30	1.50-1.60-1.70	0.20-0.40-0.60	0.07-0.12-0.17	0
	58-80	35-46-60	20-39-50	12-15-18	1.75-1.90-2.00	0.01-0.03-0.20	0.02-0.03-0.04	0
ZnsB:								
Zenas-------------------	0-9	2-4 -10	65-75-80	15-21-25	1.20-1.43-1.65	0.60-1.30-2.00	0.18-0.22-0.24	0
	9-26	2-5 -10	52-62-70	25-33-37	1.40-1.50-1.65	0.60-1.30-2.00	0.14-0.19-0.21	3
	26-42	3-8 -12	26-37-45	40-55-70	1.35-1.40-1.65	0.60-1.30-2.00	0.06-0.12-0.15	3
	42-48	3-10-12	26-42-45	40-48-70	1.20-1.30-1.65	0.60-1.30-2.00	0.06-0.12-0.15	3
	48-80	---	---	---	---	0.20-5.81-19.98	---	

Table 18.--Erosion Properties of the Soils

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. The abbreviation "rv" stands for representative value. Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	Erosion factors			Wind erodibility group	Wind erodibility index	Slope length (rv)	Slope gradient (rv)
		Kw	Kf	T				
	In						Ft	Pct
AddA:								
Avonburg	0-11	.55	.55	4	5	56	150	0.9
	11-21	.55	.55					
	21-37	.49	.49					
	37-52	.55	.55					
	52-83	.55	.55					
	83-90	.37	.43					
AddB2:								
Avonburg	0-7	.55	.55	4	5	56	100	3.0
	7-16	.55	.55					
	16-32	.49	.49					
	32-42	.55	.55					
	42-63	.55	.55					
	63-80	.37	.43					
AzoA:								
Ayrshire	0-8	.28	.28	5	3	86	100	0.9
	8-14	.32	.32					
	14-45	.20	.20					
	45-70	.20	.20					
	70-80	.10	.10					
BbhA:								
Bartle	0-9	.55	.55	5	5	56	250	0.9
	9-17	.55	.55					
	17-30	.55	.55					
	30-50	.55	.55					
	50-80	.43	.55					
BgeAH:								
Birds	0-8	.43	.43	5	6	48	300	0.3
	8-43	.49	.49					
	43-60	.49	.49					
BgeAHU:								
Birds, undrained	0-8	.43	.43	5	6	48	300	0.2
	8-43	.49	.49					
	43-60	.49	.49					
BkeB:								
Bloomfield	0-9	.05	.05	5	1	250	125	4.0
	9-33	.15	.15					
	33-72	.10	.10					
	72-80	.10	.10					
Alvin	0-7	.10	.10	5	2	134	125	4.0
	7-10	.17	.17					
	10-40	.17	.17					
	40-70	.17	.17					
	70-80	.15	.15					

Table 18.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
BlbB2:								
Blocher	0-7	.49	.49	3	5	56	175	4.0
	7-32	.49	.49					
	32-66	.24	.32					
	66-76	.28	.32					
	76-80	.37	.37					
Jennings	0-9	.55	.55	4	5	56	175	4.0
	9-27	.55	.55					
	27-38	.49	.49					
	38-73	.28	.32					
	73-77	.37	.37					
	77-87	---	---					
BlcC2:								
Blocher	0-6	.49	.49	3	5	56	120	9.0
	6-28	.49	.49					
	28-68	.24	.32					
	68-78	.28	.32					
	78-95	---	---					
Jennings	0-9	.55	.55	4	5	56	120	9.0
	9-27	.55	.55					
	27-38	.49	.49					
	38-73	.28	.32					
	73-77	.37	.37					
	77-87	---	---					
Deputy	0-8	.49	.49	4	5	56	120	9.0
	8-27	.49	.49					
	27-53	.28	.32					
	53-77	---	---					
	77-87	---	---					
BlcC3:								
Blocher, severely eroded	0-5	.49	.49	2	6	48	120	9.0
	5-18	.49	.49					
	18-47	.24	.32					
	47-65	.28	.32					
	65-78	---	---					
Jennings, severely eroded	0-3	.49	.49	2	6	48	125	9.0
	3-17	.55	.55					
	17-30	.49	.49					
	30-69	.28	.32					
	69-75	.37	.37					
	75-85	---	---					
Deputy, severely eroded	0-4	.43	.43	3	6	48	120	9.0
	4-17	.49	.49					
	17-43	.28	.32					
	43-60	---	---					
	60-80	---	---					
BlgC2:								
Blocher	0-6	.49	.49	3	5	56	120	9.0
	6-26	.49	.49					
	26-66	.24	.32					
	66-76	.28	.32					
	76-80	.37	.43					

Table 18.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
BlgC2:								
Cincinnati	0-8	.55	.55	4	5	56	120	9.0
	8-24	.55	.55					
	24-74	.49	.49					
	74-80	.32	.37					
BlgC3:								
Blocher, severely eroded	0-5	.49	.49	2	6	48	120	9.0
	5-18	.49	.49					
	18-47	.24	.32					
	47-64	.28	.32					
	64-80	.37	.43					
Cincinnati, severely eroded	0-5	.49	.49	2	6	48	120	9.0
	5-14	.55	.55					
	14-35	.49	.49					
	35-78	.32	.37					
	78-84	.32	.37					
BlkE2:								
Bonnell	0-6	.43	.43	5	5	56	100	19.0
	6-9	.49	.49					
	9-44	.17	.20					
	44-70	.24	.28					
	70-80	.24	.28					
Blocher	0-6	.49	.49	3	5	56	100	14.0
	6-22	.49	.49					
	22-66	.24	.32					
	66-76	.28	.32					
	76-80	.37	.43					
Hickory	0-6	.28	.28	5	5	56	100	23.0
	6-38	.24	.28					
	38-44	.24	.28					
	44-80	.28	.32					
BnjA:								
Bobtown	0-9	.10	.10	5	2	134	100	1.0
	9-20	.15	.15					
	20-52	.10	.10					
	52-80	.05	.05					
BnuD3:								
Bonnell, severely eroded	0-3	.28	.28	4	6	48	100	17.0
	3-32	.17	.20					
	32-54	.24	.28					
	54-80	.24	.28					
Hickory, severely eroded	0-4	.28	.28	4	6	48	90	20.0
	4-33	.24	.28					
	33-40	.24	.28					
	40-80	.28	.32					
Blocher, severely eroded	0-4	.49	.49	2	6	48	100	14.0
	4-18	.49	.49					
	18-47	.24	.32					
	47-64	.28	.32					
	64-80	.37	.43					

Table 18.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors: Kw	Erosion factors: Kf	Erosion factors: T	Wind erodibility group	Wind erodibility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
BnxE2:								
Bonnell	0-6	.43	.43	5	5	56	100	19.0
	6-9	.49	.49					
	9-44	.17	.20					
	44-70	.24	.28					
	70-80	.24	.28					
Grayford	0-7	.43	.43	3	5	56	100	17.0
	7-16	.43	.43					
	16-45	.24	.28					
	45-52	.15	.24					
	52-60	---	---					
BnxE3:								
Bonnell, severely eroded	0-3	.28	.28	4	6	48	100	19.0
	3-32	.17	.20					
	32-54	.24	.28					
	54-80	.24	.28					
Grayford, severely eroded	0-7	.43	.43	2	6	48	100	17.0
	7-12	.43	.43					
	12-42	.24	.28					
	42-49	.15	.24					
	49-60	---	---					
BobE4:								
Bonnell, very severely eroded	0-3	.28	.28	4	6	48	100	23.0
	3-25	.17	.20					
	25-38	.24	.28					
	38-80	.24	.28					
Hickory, very severely eroded	0-3	.28	.28	4	6	48	100	23.0
	3-35	.24	.28					
	35-40	.24	.28					
	40-80	.28	.32					
BodAQ:								
Bonnie	0-8	.43	.43	5	5	56	300	0.3
	8-38	.43	.43					
	38-60	.43	.43					
CcaG:								
Caneyville	0-8	.32	.37	2	5	56	150	41.0
	8-14	.43	.43					
	14-33	.17	.20					
	33-60	---	---					
Rock outcrop.								
CcbC2:								
Caneyville	0-6	.37	.43	1	6	48	150	9.0
	6-10	.43	.43					
	10-36	.17	.20					
	36-60	---	---					
Zenas	0-9	.43	.43	3	6	48	125	5.0
	9-26	.49	.49					
	26-42	.17	.20					
	42-48	.20	.24					
	48-80	---	---					

Table 18.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
CcgD2:								
Caneyville	0-8	.32	.37	2	5	56	150	19.0
	8-14	.43	.43					
	14-33	.17	.20					
	33-60	---	---					
Grayford	0-7	.43	.43	3	5	56	100	17.0
	7-16	.43	.43					
	16-45	.24	.28					
	45-52	.15	.24					
	52-60	---	---					
CcgD3:								
Caneyville, severely eroded	0-5	.43	.43	1	6	48	100	19.0
	5-24	.17	.20					
	24-60	---	---					
Grayford, severely eroded	0-7	.43	.43	2	6	48	100	16.0
	7-12	.43	.43					
	12-42	.24	.28					
	42-49	.15	.24					
	49-60	---	---					
CldB2:								
Cincinnati	0-8	.55	.55	4	5	56	175	4.0
	8-31	.55	.55					
	31-72	.49	.49					
	72-80	.32	.37					
Blocher	0-7	.49	.49	3	5	56	175	4.0
	7-32	.49	.49					
	32-66	.24	.32					
	66-76	.28	.32					
	76-80	.37	.43					
ClfA:								
Cobbsfork	0-12	.55	.55	4	5	56	350	0.5
	12-18	.55	.55					
	18-38	.55	.55					
	38-50	.49	.49					
	50-85	.49	.49					
	85-90	.32	.37					
CwaAQ:								
Cuba	0-10	.43	.43	5	5	56	300	1.0
	10-47	.49	.49					
	47-60	.43	.55					
CxdA:								
Cyclone	0-17	.28	.28	5	6	48	100	0.5
	17-52	.37	.37					
	52-58	.37	.37					
	58-65	.32	.32					
	65-80	.32	.37					
DfnA:								
Dubois	0-10	.55	.55	4	5	56	250	0.9
	10-17	.55	.55					
	17-38	.55	.55					
	38-82	.55	.55					
	82-96	.43	.43					

Table 18.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
DfnB2:								
Dubois	0-6	.55	.55	4	5	56	100	4.0
	6-10	.55	.55					
	10-28	.55	.55					
	28-68	.55	.55					
	68-80	.43	.43					
DtwC2:								
Deputy	0-8	.49	.49	4	5	56	120	9.0
	8-27	.49	.49					
	27-53	.28	.32					
	53-77	---	---					
	77-87	---	---					
DtzC3:								
Deputy, severely eroded	0-4	.43	.43	3	6	48	120	9.0
	4-17	.49	.49					
	17-43	.28	.32					
	43-60	---	---					
	60-80	---	---					
Trappist, severely eroded	0-6	.43	.43	1	6	48	120	9.0
	6-21	.32	.37					
	21-24	.32	.37					
	24-40	---	---					
EepAQ:								
Elkinsville	0-9	.43	.43	5	5	56	200	1.0
	9-24	.43	.43					
	24-58	.28	.32					
	58-68	.28	.32					
	68-80	.24	.32					
EesB2:								
Elkinsville	0-8	.43	.43	5	5	56	175	4.0
	8-34	.43	.43					
	34-60	.28	.32					
	60-80	.28	.32					
Millstone	0-10	.37	.43	5	5	56	175	4.0
	10-62	.43	.49					
	62-80	.28	.55					
FdbA:								
Fincastle	0-10	.49	.49	4	5	56	200	1.0
	10-13	.49	.49					
	13-27	.43	.43					
	27-50	.32	.37					
	50-59	.32	.37					
	59-80	.32	.37					
FdqB:								
Fincastle	0-10	.49	.49	4	5	56	150	3.0
	10-13	.49	.49					
	13-27	.43	.43					
	27-50	.32	.37					
	50-59	.32	.37					
	59-80	.32	.37					

Table 18.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors Kw	Kf	T	Wind erodibility group	Wind erodibility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
FdqB:								
Xenia	0-8	.49	.49	4	5	56	130	3.0
	8-30	.43	.43					
	30-50	.32	.37					
	50-58	.32	.37					
	58-80	.32	.37					
GmsF:								
Greybrook	0-5	.43	.43	5	6	48	60	25.0
	5-15	.55	.55					
	15-62	.32	.37					
	62-80	.43	.49					
HccB2:								
Haubstadt	0-7	.55	.55	4	5	56	175	4.0
	7-32	.55	.55					
	32-61	.43	.49					
	61-80	.43	.64					
HcgAH:								
Haymond	0-10	.43	.43	5	5	56	300	1.0
	10-44	.55	.55					
	44-60	.43	.49					
HcgAW:								
Haymond	0-9	.43	.43	5	5	56	300	1.0
	9-44	.55	.55					
	44-60	.43	.49					
HcpAP:								
Haymond, frequently ponded, depression	0-10	.43	.43	5	5	56	300	0.9
	10-44	.55	.55					
	44-60	.43	.49					
HeeG:								
Hickory	0-6	.32	.32	5	5	56	100	40.0
	6-38	.24	.28					
	38-44	.24	.28					
	44-80	.28	.32					
HizE2:								
Hickory	0-6	.28	.28	5	5	56	100	23.0
	6-38	.24	.28					
	38-44	.24	.28					
	44-80	.28	.32					
Grayford	0-7	.43	.43	3	5	56	100	17.0
	7-16	.43	.43					
	16-45	.24	.28					
	45-52	.15	.24					
	52-60	---	---					
HizE3:								
Hickory, severely eroded	0-4	.28	.28	4	6	48	90	20.0
	4-33	.24	.28					
	33-40	.24	.28					
	40-80	.28	.32					

Table 18.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors Kw	Kf	T	Wind erodibility group	Wind erodibility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
HizE3:								
Grayford, severely eroded	0-7	.43	.43	2	6	48	100	17.0
	7-12	.43	.43					
	12-42	.24	.28					
	42-49	.15	.24					
	49-60	---	---					
HleAW:								
Holton	0-14	.43	.43	5	5	56	300	0.5
	14-41	.32	.37					
	41-60	.24	.37					
MhyB2:								
Medora	0-8	.55	.55	4	5	56	175	4.0
	8-21	.55	.55					
	21-45	.37	.43					
	45-80	.20	.24					
MhyC3:								
Medora, severely eroded	0-7	.49	.49	2	6	48	120	9.0
	7-16	.55	.55					
	16-35	.37	.43					
	35-80	.20	.24					
MmoC3:								
Miami, severely eroded	0-6	.32	.32	3	6	48	100	9.0
	6-29	.32	.32					
	29-34	.37	.43					
	34-80	.37	.43					
MmoD3:								
Miami, severely eroded	0-6	.32	.32	3	6	48	75	15.0
	6-29	.32	.32					
	29-34	.37	.43					
	34-80	.37	.43					
MnpC2:								
Miami	0-7	.43	.43	4	5	56	100	9.0
	7-13	.49	.49					
	13-31	.32	.32					
	31-36	.37	.43					
	36-80	.37	.43					
MnpD2:								
Miami	0-7	.43	.43	4	5	56	75	15.0
	7-13	.49	.49					
	13-31	.32	.32					
	31-36	.37	.43					
	36-80	.37	.43					
NaaA:								
Nabb	0-10	.55	.55	4	5	56	200	0.9
	10-18	.55	.55					
	18-35	.55	.55					
	35-76	.49	.49					
	76-80	.32	.37					

Table 18.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
NaaB2:								
Nabb--------------------	0-7	.55	.55	4	5	56	175	4.0
	7-13	.55	.55					
	13-33	.55	.55					
	33-71	.49	.49					
	71-80	.32	.37					
OfaAW:								
Oldenburg---------------	0-9	.43	.43	5	5	56	300	0.9
	9-39	.32	.37					
	39-60	.24	.37					
OmkC2:								
Otwell------------------	0-7	.55	.55	4	5	56	150	9.0
	7-27	.55	.55					
	27-55	.55	.55					
	55-80	.37	.43					
OmkC3:								
Otwell, severely eroded	0-5	.49	.49	3	6	48	150	9.0
	5-14	.55	.55					
	14-52	.55	.55					
	52-80	.37	.43					
Omz.								
Orthents								
PcrA:								
Pekin-------------------	0-8	.55	.55	4	5	56	250	0.9
	8-29	.55	.55					
	29-58	.55	.55					
	58-80	.49	.55					
PcrB2:								
Pekin-------------------	0-9	.55	.55	4	5	56	175	4.0
	9-24	.55	.55					
	24-45	.55	.55					
	45-80	.49	.55					
PcrC2:								
Pekin, eroded-----------	0-8	.55	.55	4	5	56	120	9.0
	8-28	.55	.55					
	28-57	.55	.55					
	57-80	.49	.55					
PhaA:								
Peoga-------------------	0-8	.55	.55	5	5	56	300	0.5
	8-19	.55	.55					
	19-36	.55	.55					
	36-76	.55	.55					
	76-80	.55	.55					
PlpAH:								
Piopolis----------------	0-10	.43	.43	5	6	48	300	0.3
	10-31	.43	.43					
	31-60	.43	.43					
PlpAHU:								
Piopolis, undrained-----	0-10	.43	.43	5	6	48	300	0.3
	10-31	.43	.43					
	31-60	.43	.43					

Table 18.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors Kw	Kf	T	Wind erodibility group	Wind erodibility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
Pml. Pits, quarry								
RptG:								
Rohan	0-4	.24	.43	1	7	38	120	43.0
	4-16	.10	.43					
	16-40	---	---					
Jessietown	0-5	.43	.43	2	6	48	120	38.0
	5-23	.43	.49					
	23-30	.15	.37					
	30-40	---	---					
RywB2:								
Russell	0-8	.49	.49	4	5	56	130	4.0
	8-13	.43	.43					
	13-28	.32	.37					
	28-52	.32	.37					
	52-58	.32	.37					
	58-80	.32	.37					
RzfA:								
Ryker, terrace	0-9	.43	.43	5	5	56	250	1.0
	9-12	.49	.49					
	12-30	.49	.49					
	30-73	.24	.32					
	73-120	.15	.24					
Muscatatuck, terrace	0-10	.55	.55	4	5	56	250	1.0
	10-25	.55	.55					
	25-36	.43	.49					
	36-67	.28	.32					
	67-120	.15	.24					
RzfB2:								
Ryker, terrace	0-7	.43	.43	5	5	56	250	4.0
	7-9	.49	.49					
	9-30	.49	.49					
	30-73	.24	.32					
	73-120	.15	.24					
Muscatatuck, terrace	0-8	.55	.55	4	5	56	175	4.0
	8-25	.55	.55					
	25-36	.43	.49					
	36-67	.28	.32					
	67-120	.15	.24					
RzgA:								
Ryker	0-9	.43	.43	5	5	56	250	1.0
	9-12	.49	.49					
	12-38	.49	.49					
	38-67	.24	.32					
	67-80	.17	.20					
Muscatatuck	0-8	.55	.55	4	5	56	250	1.0
	8-25	.55	.55					
	25-36	.43	.49					
	36-49	.28	.32					
	49-80	.24	.32					

Table 18.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
RzgB2:								
Ryker	0-6	.43	.43	5	5	56	250	4.0
	6-10	.49	.49					
	10-34	.49	.49					
	34-63	.24	.32					
	63-80	.17	.20					
Muscatatuck	0-8	.55	.55	4	5	56	175	4.0
	8-25	.55	.55					
	25-36	.43	.49					
	36-49	.28	.32					
	49-80	.24	.32					
RzgC2:								
Ryker	0-8	.43	.43	5	5	56	125	7.0
	8-32	.49	.49					
	32-58	.24	.32					
	58-78	.17	.20					
	78-80	---	---					
Muscatatuck	0-8	.55	.55	4	5	56	125	7.0
	8-25	.55	.55					
	25-36	.43	.49					
	36-49	.28	.32					
	49-80	.24	.32					
RzhC3:								
Ryker, severely eroded	0-7	.43	.43	4	6	48	125	7.0
	7-25	.49	.49					
	25-54	.24	.32					
	54-78	.17	.20					
	78-80	---	---					
Grayford, severely eroded	0-7	.37	.43	2	6	48	125	9.0
	7-12	.43	.43					
	12-42	.24	.28					
	42-52	.15	.24					
	52-60	---	---					
Muscatatuck, severely eroded	0-4	.55	.55	4	6	48	125	7.0
	4-22	.55	.55					
	22-33	.43	.49					
	33-46	.28	.32					
	46-80	.17	.20					
SceA:								
Scottsburg	0-8	.49	.49	4	5	56	175	1.0
	8-31	.49	.49					
	31-53	.37	.43					
	53-61	.32	.32					
	61-67	---	---					
	67-80	---	---					
ScfB2:								
Scottsburg	0-8	.49	.49	4	5	56	175	3.0
	8-31	.49	.49					
	31-53	.37	.43					
	53-61	.32	.32					
	61-67	---	---					
	67-80	---	---					

Table 18.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors Kw	Kf	T	Wind erodibility group	Wind erodibility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
ScfB2:								
Deputy	0-8	.49	.49	4	5	56	175	4.0
	8-27	.49	.49					
	27-53	.28	.32					
	53-77	---	---					
	77-87	---	---					
SifE:								
Senachwine	0-8	.37	.37	3	5	56	75	20.0
	8-26	.37	.37					
	26-32	.28	.32					
	32-80	.32	.43					
SifG:								
Senachwine	0-6	.37	.37	3	5	56	50	50.0
	6-26	.37	.37					
	26-32	.28	.32					
	32-80	.32	.43					
SldAW:								
Shoals	0-8	.37	.37	5	6	48	150	0.5
	8-33	.32	.32					
	33-60	.32	.37					
StaAH:								
Steff	0-10	.43	.43	5	5	56	300	0.9
	10-31	.49	.49					
	31-60	.28	.49					
StaAQ:								
Steff	0-11	.43	.43	5	5	56	300	0.9
	11-41	.49	.49					
	41-60	.28	.49					
StdAH:								
Stendal	0-11	.43	.43	5	5	56	100	0.5
	11-41	.49	.49					
	41-60	.49	.49					
StdAQ:								
Stendal	0-8	.43	.43	5	5	56	300	0.5
	8-40	.49	.49					
	40-60	.49	.49					
SuoAH:								
Stonelick	0-10	.24	.24	5	3	86	100	1.0
	10-60	.17	.24					
ThbD4:								
Trappist, very severely eroded	0-3	.43	.43	1	6	48	100	13.0
	3-20	.32	.37					
	20-30	---	---					
	30-40	---	---					
ThcD3:								
Trappist, severely eroded	0-4	.43	.43	1	6	48	100	15.0
	4-21	.32	.37					
	21-27	.32	.37					
	27-40	---	---					

Table 18.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors Kw	Kf	T	Wind erodibility group	Wind erodibility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
ThcD3:								
Rohan, severely eroded	0-3	.24	.43	1	7	38	100	19.0
	3-12	.10	.43					
	12-40	---	---					
ThdD2:								
Trappist	0-6	.43	.43	2	5	56	100	15.0
	6-30	.32	.37					
	30-35	.32	.37					
	35-45	---	---					
Rohan	0-3	.43	.43	1	6	48	100	19.0
	3-16	.10	.43					
	16-40	---	---					
Uby.								
Udorthents, loamy								
UdaB:								
Urban land.								
Deputy	0-8	.49	.49	4	5	56	120	9.0
	8-27	.49	.49					
	27-53	.28	.32					
	53-77	---	---					
	77-87	---	---					
Scottsburg	0-8	.49	.49	4	5	56	175	3.0
	8-31	.49	.49					
	31-53	.37	.43					
	53-61	.32	.32					
	61-67	---	---					
	67-80	---	---					
UfcB:								
Urban land.								
Cincinnati	0-8	.55	.55	4	5	56	120	9.0
	8-24	.55	.55					
	24-74	.49	.49					
	74-80	.32	.37					
Nabb	0-7	.55	.55	4	5	56	175	4.0
	7-13	.55	.55					
	13-33	.55	.55					
	33-71	.49	.49					
	71-80	.32	.37					
UfdA:								
Urban land.								
Cobbsfork	0-12	.55	.55	4	5	56	350	0.5
	12-18	.55	.55					
	18-38	.55	.55					
	38-50	.49	.49					
	50-85	.49	.49					
	85-90	.32	.37					

Table 18.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors Kw	Kf	T	Wind erodibility group	Wind erodibility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
UfdA:								
Avonburg	0-11	.55	.55	4	5	56	150	0.9
	11-21	.55	.55					
	21-37	.49	.49					
	37-52	.55	.55					
	52-83	.55	.55					
	83-90	.37	.43					
Usl.								
Udorthents, rubbish								
W.								
Water								
WaaAH:								
Wakeland	0-7	.43	.43	5	5	56	300	0.5
	7-29	.55	.55					
	29-60	.49	.49					
WaaAW:								
Wakeland	0-7	.43	.43	5	5	56	300	0.5
	7-29	.55	.55					
	29-60	.49	.49					
WnmA:								
Whitcomb	0-9	.55	.55	4	6	48	300	1.0
	9-15	.55	.55					
	15-30	.43	.43					
	30-48	.43	.43					
	48-56	.32	.37					
	56-61	.37	.37					
	61-80	---	---					
WokAH:								
Wilbur	0-7	.43	.43	5	5	56	300	0.9
	7-32	.55	.55					
	32-60	.49	.49					
WokAW:								
Wilbur	0-7	.43	.43	5	5	56	300	0.9
	7-32	.55	.55					
	32-60	.49	.49					
WooAQ:								
Wilhite	0-15	.43	.43	5	5	56	250	0.3
	15-26	.28	.28					
	26-49	.37	.37					
	49-60	.37	.37					
WprAV:								
Wirt	0-8	.37	.37	5	5	56	300	1.0
	8-38	.32	.37					
	38-60	.24	.37					
WprAW:								
Wirt	0-8	.37	.37	5	5	56	300	1.0
	8-38	.32	.37					
	38-60	.24	.37					
WpuAH:								
Wirt	0-8	.43	.43	5	5	56	300	1.0
	8-38	.32	.37					
	38-60	.24	.37					

Table 18.--Erosion Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors			Wind erodibility group	Wind erodibility index	Slope length (rv)	Slope gradient (rv)
		Kw	Kf	T				
	In						Ft	Pct
WufB2:								
Williamstown------------	0-9	.43	.43	4	6	48	150	4.0
	9-33	.32	.37					
	33-37	.37	.43					
	37-80	.43	.49					
XabB2:								
Xenia-------------------	0-8	.49	.49	4	5	56	150	4.0
	8-30	.43	.43					
	30-50	.32	.37					
	50-58	.32	.37					
	58-80	.32	.37					
ZnsB:								
Zenas-------------------	0-9	.43	.43	3	6	48	125	4.0
	9-26	.49	.49					
	26-42	.17	.20					
	42-48	.20	.24					
	48-80	---	---					

Table 19.--Chemical Properties of the Soils

(The properties are displayed as low, representative, and high values separated by hyphens. Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent	Organic matter
	In	meq/100 g	meq/100 g	pH	Pct	Pct
AddA:						
Avonburg--------------	0-11	7.0-12.0-20.0	4.0-6.0-10.0	4.5-5.9-7.3	0	1.0-1.6-2.0
	11-21	5.0-7.0-10.0	4.0-6.0-8.0	4.5-5.0-6.5	0	0.0-0.5-1.0
	21-37	---	12.0-13.0-16.0	3.5-4.3-5.0	0	0.0-0.2-0.5
	37-52	---	8.0-10.0-12.0	3.5-4.3-5.0	0	0.0-0.2-0.5
	52-83	---	8.0-10.0-12.0	3.5-4.5-5.5	0	0.0-0.2-0.5
	83-90	16.0-20.0-24.0	13.0-17.0-20.0	5.1-5.9-7.3	0	0.0-0.2-0.5
AddB2:						
Avonburg--------------	0-7	7.0-12.0-20.0	4.0-6.0-10.0	4.5-5.9-7.3	0	1.0-1.4-2.0
	7-16	5.0-7.0-10.0	4.0-6.0-8.0	4.5-5.0-6.5	0	0.0-0.5-1.0
	16-32	---	12.0-13.0-16.0	3.5-4.3-5.0	0	0.0-0.2-0.5
	32-42	---	8.0-10.0-12.0	3.5-4.3-5.0	0	0.0-0.2-0.5
	42-63	---	8.0-10.0-12.0	3.5-4.5-5.5	0	0.0-0.2-0.5
	63-80	16.0-20.0-24.0	13.0-17.0-20.0	5.1-5.9-7.3	0	0.0-0.2-0.5
AzoA:						
Ayrshire--------------	0-8	4.0-5.0-12.0	---	5.6-6.5-7.3	0	1.0-1.5-2.0
	8-14	4.0-6.0-12.0	---	5.6-6.5-7.3	0	0.0-0.5-1.0
	14-45	4.0-10.0-11.0	3.0-8.0-8.0	5.1-6.2-7.3	0	0.0-0.2-0.5
	45-70	4.0-6.0-11.0	3.0-5.0-8.0	5.1-6.2-7.3	0	0.0-0.2-0.5
	70-80	0.0-2.5-5.0	---	6.6-7.2-7.8	0-0-20	0.0-0.2-0.5
BbhA:						
Bartle----------------	0-9	5.0-10.0-15.0	3.0-7.0-12.0	4.5-5.9-7.3	0	1.0-1.6-2.0
	9-17	4.0-8.0-14.0	3.0-7.0-12.0	3.5-5.1-6.0	0	0.0-0.2-0.5
	17-30	10.0-13.0-19.0	8.0-11.0-15.0	3.5-4.4-6.0	0	0.0-0.2-0.5
	30-50	---	8.0-11.0-15.0	3.5-4.5-5.5	0	0.0-0.2-0.5
	50-80	6.0-11.0-14.0	5.0-9.0-12.0	4.5-5.0-7.3	0	0.0-0.2-0.5
BgeAH:						
Birds-----------------	0-8	9.0-13.5-18.0	---	5.6-6.5-7.3	0	1.0-2.0-3.0
	8-43	9.0-13.5-18.0	---	5.6-6.7-7.8	0	0.0-0.5-1.0
	43-60	5.0-10.0-15.0	---	5.6-6.7-7.8	0	0.0-0.2-0.5
BgeAHU:						
Birds, undrained------	0-8	9.0-14.0-20.0	---	5.6-6.3-7.3	0	1.0-1.5-3.0
	8-43	9.0-14.0-18.0	---	5.6-6.3-7.3	0	0.0-0.7-1.0
	43-60	6.0-12.0-16.0	---	5.6-6.3-7.8	0	0.0-0.2-0.5
BkeB:						
Bloomfield------------	0-9	2.0-5.0-10.0	1.0-4.0-8.0	5.1-6.5-7.3	0	0.5-0.8-1.5
	9-33	3.0-6.0-7.0	2.0-5.0-5.0	5.1-6.5-7.3	0	0.0-0.5-1.0
	33-72	3.0-6.0-8.0	---	5.6-6.5-7.3	0	0.0-0.5-1.0
	72-80	3.0-6.0-8.0	---	6.1-7.4-8.4	0-13-20	0.0-0.5-1.0
Alvin-----------------	0-7	4.0-7.0-10.0	3.0-5.0-8.0	5.1-6.2-7.3	0	0.5-0.9-1.5
	7-10	6.0-8.0-10.0	5.0-6.0-8.0	5.1-6.2-7.3	0	0.0-0.2-0.5
	10-40	6.0-9.0-10.0	5.0-6.0-8.0	5.1-6.2-7.3	0	0.0-0.2-0.5
	40-70	4.0-6.0-10.0	3.0-5.0-8.0	5.1-6.2-7.3	0	0.0-0.2-0.5
	70-80	2.0-4.0-5.0	---	6.1-7.4-8.4	0-13-25	0.0-0.2-0.5
BlbB2:						
Blocher---------------	0-7	9.0-11.0-20.0	6.0-9.0-12.0	4.5-5.9-7.3	0	1.0-1.9-3.0
	7-32	---	8.0-10.0-12.0	4.5-5.0-5.5	0	0.5-0.8-1.0
	32-66	---	10.0-15.0-22.0	4.5-4.9-5.5	0	0.0-0.2-0.5
	66-76	18.0-20.0-26.0	---	5.6-6.7-7.8	0-0-5	0.0-0.2-0.5
	76-80	---	5.0-10.0-16.0	3.5-4.3-5.0	0	0.5-1.2-2.0

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent	Organic matter
	In	meq/100 g	meq/100 g	pH	Pct	Pct
BlbB2:						
Jennings	0-9	7.0-10.0-20.0	4.0-7.0-12.0	4.5-5.9-7.3	0	1.0-1.9-3.0
	9-27	8.0-12.0-15.0	5.0-9.0-12.0	3.5-5.0-6.5	0	0.0-0.5-1.0
	27-38	---	5.0-7.0-12.0	3.5-4.5-5.0	0	0.0-0.2-0.5
	38-73	---	8.0-12.0-22.0	3.5-4.3-5.0	0	0.0-0.2-0.5
	73-77	---	5.0-10.0-16.0	3.5-4.3-5.0	0	0.5-1.2-2.0
	77-87	---	---	---	---	---
BlcC2:						
Blocher	0-6	9.0-11.0-20.0	6.0-9.0-12.0	4.5-5.9-7.3	0	1.0-1.9-3.0
	6-28	---	8.0-10.0-12.0	4.5-5.0-5.5	0	0.5-0.8-1.0
	28-68	---	10.0-15.0-22.0	4.5-4.9-5.5	0	0.0-0.2-0.5
	68-78	18.0-20.0-26.0	---	5.6-6.7-7.8	0-0-5	0.0-0.2-0.5
	78-95	---	---	---	---	---
Jennings	0-9	7.0-10.0-20.0	4.0-7.0-12.0	4.5-5.9-7.3	0	1.0-1.9-3.0
	9-27	8.0-12.0-15.0	5.0-9.0-12.0	3.5-5.0-6.5	0	0.0-0.5-1.0
	27-38	---	5.0-7.0-12.0	3.5-4.5-5.0	0	0.0-0.2-0.5
	38-73	---	8.0-12.0-22.0	3.5-4.3-5.0	0	0.0-0.2-0.5
	73-77	---	5.0-10.0-16.0	3.5-4.3-5.0	0	0.5-1.2-2.0
	77-87	---	---	---	---	---
Deputy	0-8	12.0-16.0-20.0	6.0-10.0-15.0	4.5-5.9-7.3	0	1.0-2.0-3.0
	8-27	8.0-14.0-18.0	5.0-10.0-15.0	4.5-4.9-6.0	0	0.0-0.5-1.0
	27-53	---	8.0-12.0-16.0	3.5-4.5-5.0	0	0.0-0.2-0.5
	53-77	---	---	3.5-4.5-5.0	---	---
	77-87	---	---	---	---	---
BlcC3:						
Blocher, severely eroded	0-5	9.0-11.0-20.0	6.0-9.0-12.0	4.5-5.9-7.3	0	0.5-1.2-2.0
	5-18	---	8.0-10.0-12.0	4.5-5.0-5.5	0	0.5-0.8-1.0
	18-47	---	10.0-15.0-22.0	4.5-4.9-5.5	0	0.0-0.2-0.5
	47-65	18.0-20.0-26.0	---	5.6-6.7-7.8	0-0-5	0.0-0.2-0.5
	65-78	---	---	---	---	---
Jennings, severely eroded	0-3	7.0-10.0-20.0	4.0-7.0-12.0	4.5-5.9-7.3	0	0.5-1.2-2.0
	3-17	8.0-12.0-15.0	5.0-9.0-12.0	3.5-5.0-7.3	0	0.0-0.5-1.0
	17-30	---	5.0-7.0-12.0	3.5-4.5-5.0	0	0.0-0.2-0.5
	30-69	---	8.0-12.0-22.0	3.5-4.3-5.0	0	0.0-0.2-0.5
	69-75	---	5.0-10.0-16.0	3.5-4.3-5.0	0	0.5-1.2-2.0
	75-85	---	---	---	---	---
Deputy, severely eroded	0-4	13.0-17.0-24.0	9.0-12.0-16.0	4.5-5.9-7.3	0	0.5-1.0-2.0
	4-17	8.0-14.0-18.0	5.0-10.0-15.0	4.5-4.9-6.0	0	0.0-0.5-1.0
	17-43	---	8.0-12.0-16.0	3.5-4.5-5.0	0	0.0-0.2-0.5
	43-60	---	---	3.5-4.5-5.0	---	---
	60-80	---	---	---	---	---
BlgC2:						
Blocher	0-6	9.0-11.0-20.0	6.0-9.0-12.0	4.5-5.9-7.3	0	1.0-1.9-3.0
	6-26	---	8.0-10.0-12.0	4.5-5.0-5.5	0	0.5-0.8-1.0
	26-66	---	10.0-15.0-22.0	4.5-4.9-5.5	0	0.0-0.2-0.5
	66-76	18.0-20.0-26.0	---	5.6-6.7-7.8	0-0-5	0.0-0.2-0.5
	76-80	4.0-8.0-15.0	---	7.4-7.9-8.4	5-18-25	0.0-0.2-0.5
Cincinnati	0-8	7.0-10.0-20.0	4.0-7.0-12.0	4.5-5.9-7.3	0	1.0-1.9-3.0
	8-24	---	5.0-9.0-12.0	4.5-4.9-5.5	0	0.0-0.5-1.0
	24-74	6.0-10.0-14.0	5.0-7.0-12.0	4.5-4.9-6.0	0	0.0-0.2-0.5
	74-80	10.0-15.0-22.0	8.0-13.0-18.0	4.5-5.5-6.5	0	0.0-0.2-0.5

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent	Organic matter
	In	meq/100 g	meq/100 g	pH	Pct	Pct
BlgC3:						
Blocher, severely eroded	0-5	9.0-11.0-20.0	6.0-9.0-12.0	4.5-5.9-7.3	0	0.5-1.2-2.0
	5-18	---	8.0-10.0-12.0	4.5-5.0-5.5	0	0.5-0.8-1.0
	18-47	---	10.0-15.0-22.0	4.5-4.9-5.5	0	0.0-0.2-0.5
	47-64	18.0-20.0-26.0	---	5.6-6.7-7.8	0-0-5	0.0-0.2-0.5
	64-80	4.0-8.0-15.0	---	7.4-7.9-8.4	5-18-25	0.0-0.2-0.5
Cincinnati, severely eroded	0-5	7.0-10.0-20.0	4.0-7.0-12.0	4.5-5.9-7.3	0	0.5-1.2-2.0
	5-14	---	5.0-9.0-12.0	4.5-4.9-5.5	0	0.0-0.5-1.0
	14-35	6.0-10.0-14.0	5.0-7.0-12.0	4.5-4.9-6.0	0	0.0-0.2-0.5
	35-78	10.0-15.0-22.0	8.0-13.0-18.0	4.5-5.5-6.5	0	0.0-0.2-0.5
	78-84	4.0-8.0-15.0	---	6.1-7.6-8.4	0-18-25	0.0-0.2-0.5
BlkE2:						
Bonnell	0-6	10.0-14.0-18.0	7.0-11.0-15.0	4.5-5.9-7.3	0	1.0-1.9-3.0
	6-9	---	9.0-13.0-17.0	4.5-5.0-5.5	0	0.0-0.5-1.0
	9-44	---	15.0-20.0-25.0	4.5-5.3-5.5	0	0.0-0.5-1.0
	44-70	11.0-14.0-19.0	9.0-12.0-15.0	5.1-6.5-7.8	0-0-10	0.0-0.2-0.5
	70-80	5.0-11.0-18.0	---	7.4-7.9-8.4	10-18-25	0.0-0.2-0.5
Blocher	0-6	9.0-11.0-16.0	6.0-9.0-12.0	4.5-5.9-7.3	0	1.0-1.9-3.0
	6-22	---	8.0-10.0-12.0	4.5-5.0-5.5	0	0.5-0.8-1.0
	22-66	---	10.0-15.0-22.0	4.5-5.0-5.5	0	0.0-0.2-0.5
	66-76	18.0-20.0-28.0	---	5.6-6.7-7.8	0-0-5	0.0-0.2-0.5
	76-80	4.0-8.0-15.0	---	7.4-7.9-8.4	5-15-25	0.0-0.2-0.5
Hickory	0-6	9.0-11.0-16.0	6.0-9.0-12.0	4.5-5.5-6.0	0	1.0-2.0-4.0
	6-38	10.0-16.0-22.0	8.0-14.0-20.0	4.5-5.3-6.0	0	0.0-0.2-0.5
	38-44	9.0-14.0-19.0	6.0-11.0-16.0	5.1-6.5-7.8	0-0-15	0.0-0.2-0.5
	44-80	5.0-10.0-15.0	---	7.4-7.9-8.4	0-20-25	0.0-0.2-0.5
BnjA:						
Bobtown	0-9	1.0-2.5-5.0	0.7-1.9-3.8	4.5-5.5-7.3	0	1.0-2.0-3.0
	9-20	1.0-2.0-3.0	0.7-1.5-2.5	4.5-5.3-6.0	0	1.0-1.5-2.0
	20-52	---	5.0-7.5-10.0	4.5-5.0-5.5	0	0.0-0.2-0.5
	52-80	0.0-2.5-5.0	0.0-2.0-3.8	4.5-5.3-6.0	0	0.0-0.2-0.5
BnuD3:						
Bonnell, severely eroded	0-3	12.0-16.0-20.0	8.0-12.0-16.0	4.5-5.9-7.3	0	0.5-1.2-2.0
	3-32	---	15.0-20.0-25.0	4.5-5.0-5.5	0	0.0-0.5-1.0
	32-54	11.0-19.0-27.0	9.0-16.0-22.0	5.1-6.5-7.8	0-0-10	0.0-0.2-0.5
	54-80	5.0-11.0-18.0	---	7.4-7.9-8.4	10-18-25	0.0-0.2-0.5
Hickory, severely eroded	0-4	12.0-16.0-20.0	8.0-12.0-16.0	4.5-5.9-7.3	0	0.1-1.2-2.0
	4-33	10.0-16.0-25.0	8.0-14.0-20.0	4.5-5.3-6.0	0	0.0-0.2-0.5
	33-40	7.0-13.0-20.0	---	5.6-6.5-7.8	0-0-15	0.0-0.2-0.5
	40-80	5.0-10.0-15.0	---	7.4-7.9-8.4	5-20-25	0.0-0.2-0.5
Blocher, severely eroded	0-4	9.0-11.0-20.0	6.0-9.0-12.0	4.5-5.9-7.3	0	0.5-1.2-2.0
	4-18	---	8.0-10.0-12.0	4.5-5.0-5.5	0	0.5-0.8-1.0
	18-47	---	10.0-15.0-22.0	4.5-4.9-5.5	0	0.0-0.2-0.5
	47-64	18.0-20.0-26.0	---	5.6-6.7-7.8	0-0-5	0.0-0.2-0.5
	64-80	4.0-8.0-15.0	---	7.4-7.9-8.4	5-18-25	0.0-0.2-0.5

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent	Organic matter
	In	meq/100 g	meq/100 g	pH	Pct	Pct
BnxE2:						
Bonnell	0-6	10.0-14.0-18.0	7.0-11.0-15.0	4.5-5.9-7.3	0	1.0-1.9-3.0
	6-9	---	9.0-13.0-17.0	4.5-5.0-5.5	0	0.0-0.5-1.0
	9-44	---	15.0-20.0-25.0	4.5-5.3-5.5	0	0.0-0.5-1.0
	44-70	11.0-14.0-19.0	9.0-12.0-15.0	5.1-6.5-7.8	0-0-10	0.0-0.2-0.5
	70-80	5.0-11.0-18.0	---	7.4-7.9-8.4	10-18-25	0.0-0.2-0.5
Grayford	0-7	9.0-12.0-20.0	5.0-8.0-12.0	4.5-5.9-7.3	0	1.0-2.0-3.0
	7-16	8.0-12.0-17.0	7.0-10.0-14.0	4.5-5.5-7.3	0	0.0-0.2-0.5
	16-45	---	6.0-9.0-13.0	4.5-5.0-5.5	0	0.0-0.2-0.5
	45-52	14.0-24.0-35.0	12.0-22.0-33.0	5.1-5.5-7.3	0	0.0-0.2-0.5
	52-60	---	---	---	---	---
BnxE3:						
Bonnell, severely eroded	0-3	12.0-16.0-20.0	8.0-12.0-16.0	4.5-5.9-7.3	0	0.5-1.2-2.0
	3-32	---	15.0-20.0-25.0	4.5-5.0-5.5	0	0.0-0.5-1.0
	32-54	11.0-19.0-27.0	9.0-16.0-22.0	5.1-6.5-7.8	0-0-10	0.0-0.2-0.5
	54-80	5.0-11.0-18.0	---	7.4-7.9-8.4	10-18-25	0.0-0.2-0.5
Grayford, severely eroded	0-7	9.0-12.0-20.0	5.0-8.0-12.0	4.5-5.9-7.3	0	0.5-1.2-2.0
	7-12	8.0-12.0-17.0	7.0-10.0-14.0	4.5-5.5-7.3	0	0.0-0.2-0.5
	12-42	---	6.0-9.0-13.0	4.5-5.0-5.5	0	0.0-0.2-0.5
	42-49	14.0-24.0-35.0	12.0-22.0-33.0	5.1-5.5-7.3	0	0.0-0.2-0.5
	49-60	---	---	---	---	---
BobE4:						
Bonnell, very severely eroded	0-3	12.0-16.0-20.0	8.0-12.0-16.0	4.5-5.9-7.3	0	0.1-0.8-1.0
	3-25	17.0-23.0-28.0	15.0-19.0-25.0	4.5-5.0-6.5	0	0.0-0.5-1.0
	25-38	11.0-19.0-25.0	---	6.1-6.5-7.8	0-0-10	0.0-0.2-0.5
	38-80	8.0-11.0-18.0	---	7.4-7.9-8.4	10-18-25	0.0-0.2-0.5
Hickory, very severely eroded	0-3	12.0-16.0-20.0	8.0-12.0-16.0	4.5-5.9-7.3	0	0.1-0.8-1.0
	3-35	10.0-16.0-25.0	8.0-14.0-20.0	4.5-5.3-6.0	0	0.0-0.2-0.5
	35-40	9.0-14.0-19.0	---	5.6-6.5-7.8	0-0-15	0.0-0.2-0.5
	40-80	5.0-10.0-15.0	---	7.4-7.9-8.4	5-20-25	0.0-0.2-0.5
BodAQ:						
Bonnie	0-8	10.0-13.0-22.0	7.0-10.0-19.0	4.5-5.9-7.3	0	1.0-1.8-3.0
	8-38	10.0-12.0-17.0	7.0-9.0-14.0	4.5-5.2-6.5	0	0.0-0.5-1.0
	38-60	10.0-12.0-17.0	7.0-9.0-14.0	4.5-5.4-6.5	0	0.0-0.5-1.0
CcaG:						
Caneyville	0-8	10.0-14.0-20.0	5.0-11.0-16.0	5.1-5.8-7.3	0	2.0-3.0-4.0
	8-14	10.0-15.0-20.0	8.0-12.0-16.0	5.1-5.8-7.3	0	0.0-1.0-1.5
	14-33	20.0-29.0-37.0	16.0-23.0-30.0	5.1-5.8-7.8	0-0-5	0.0-0.8-1.0
	33-60	---	---	---	---	---
Rock outcrop.						
CcbC2:						
Caneyville	0-6	8.0-13.0-20.0	5.0-7.0-12.0	5.1-5.9-7.3	0	1.0-2.0-3.0
	6-10	10.0-15.0-20.0	7.0-11.0-15.0	4.5-5.6-7.3	0	0.0-1.0-1.5
	10-36	21.0-29.0-37.0	18.0-26.0-35.0	5.1-5.4-7.8	0-0-5	0.0-0.8-1.0
	36-60	---	---	---	---	---

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent	Organic matter
	In	meq/100 g	meq/100 g	pH	Pct	Pct
CcbC2:						
Zenas----------------	0-9	4.0-13.0-17.0	3.0-10.0-13.0	4.5-5.9-7.3	0	1.0-2.0-3.0
	9-26	7.0-14.0-20.0	5.0-11.0-15.0	4.5-5.0-7.3	0	0.0-0.5-1.0
	26-42	13.0-25.0-32.0	10.0-19.0-24.0	4.5-5.0-6.0	0	0.0-0.2-0.5
	42-48	17.0-23.0-32.0	---	6.1-6.8-7.3	0	0.0-0.2-0.5
	48-80	---	---	---	---	---
CcgD2:						
Caneyville-----------	0-8	10.0-14.0-20.0	5.0-11.0-16.0	5.1-5.8-7.3	0	2.0-3.0-4.0
	8-14	10.0-15.0-20.0	8.0-12.0-16.0	5.1-5.8-7.3	0	0.0-1.0-1.5
	14-33	20.0-29.0-37.0	16.0-23.0-30.0	5.1-5.8-7.8	0-0-5	0.0-0.8-1.0
	33-60	---	---	---	---	---
Grayford-------------	0-7	9.0-12.0-20.0	5.0-8.0-12.0	4.5-5.9-7.3	0	1.0-2.0-3.0
	7-16	8.0-12.0-17.0	7.0-10.0-14.0	4.5-5.5-7.3	0	0.0-0.2-0.5
	16-45	---	6.0-9.0-13.0	4.5-5.0-5.5	0	0.0-0.2-0.5
	45-52	14.0-24.0-35.0	12.0-22.0-33.0	5.1-5.5-7.3	0	0.0-0.2-0.5
	52-60	---	---	---	---	---
CcgD3:						
Caneyville, severely eroded--------------	0-5	10.0-14.0-20.0	5.0-9.0-15.0	5.1-5.9-7.3	0	0.5-1.2-2.0
	5-24	21.0-29.0-37.0	18.0-26.0-35.0	5.1-5.4-7.8	0-0-5	0.0-0.8-1.0
	24-60	---	---	---	---	---
Grayford, severely eroded--------------	0-7	9.0-12.0-20.0	5.0-8.0-12.0	4.5-5.9-7.3	0	0.5-1.2-2.0
	7-12	8.0-12.0-17.0	7.0-10.0-14.0	4.5-5.5-7.3	0	0.0-0.2-0.5
	12-42	---	6.0-9.0-13.0	4.5-5.0-5.5	0	0.0-0.2-0.5
	42-49	14.0-24.0-35.0	12.0-22.0-33.0	5.1-5.5-7.3	0	0.0-0.2-0.5
	49-60	---	---	---	---	---
CldB2:						
Cincinnati-----------	0-8	7.0-10.0-20.0	4.0-7.0-12.0	4.5-5.9-7.3	0	1.0-1.9-3.0
	8-31	---	5.0-9.0-12.0	4.5-4.9-5.5	0	0.0-0.5-1.0
	31-72	6.0-10.0-14.0	5.0-7.0-12.0	4.5-4.9-6.0	0	0.0-0.2-0.5
	72-80	10.0-15.0-22.0	8.0-13.0-18.0	4.5-5.5-6.5	0	0.0-0.2-0.5
Blocher--------------	0-7	9.0-11.0-20.0	6.0-9.0-12.0	4.5-5.9-7.3	0	1.0-1.9-3.0
	7-32	---	8.0-10.0-12.0	4.5-5.0-5.5	0	0.5-0.8-1.0
	32-66	---	10.0-15.0-22.0	4.5-4.9-5.5	0	0.0-0.2-0.5
	66-76	18.0-20.0-26.0	---	5.6-6.7-7.8	0-0-5	0.0-0.2-0.5
	76-80	4.0-8.0-15.0	---	7.4-7.9-8.4	5-18-25	0.0-0.2-0.5
ClfA:						
Cobbsfork------------	0-12	6.0-10.0-18.0	3.0-7.0-10.0	4.5-5.9-7.3	0	1.0-1.6-3.0
	12-18	5.0-7.0-10.0	4.0-6.0-8.0	4.5-5.0-6.5	0	0.0-0.5-1.0
	18-38	---	6.0-11.0-15.0	3.5-4.5-5.0	0	0.0-0.2-0.5
	38-50	---	8.0-10.0-12.0	3.5-4.5-5.0	0	0.0-0.2-0.5
	50-85	---	8.0-10.0-12.0	3.5-4.8-5.5	0	0.0-0.2-0.5
	85-90	15.0-19.0-24.0	13.0-16.0-20.0	5.1-6.2-7.3	0	0.0-0.2-0.5
CwaAQ:						
Cuba-----------------	0-10	10.0-16.0-25.0	5.0-10.0-15.0	4.5-5.9-7.3	0	1.0-2.0-3.0
	10-47	6.0-10.0-17.0	5.0-9.0-15.0	4.5-5.0-6.5	0	0.5-0.8-1.0
	47-60	---	4.0-8.0-15.0	4.5-5.0-5.5	0	0.0-0.2-0.5

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent	Organic matter
	In	meq/100 g	meq/100 g	pH	Pct	Pct
CxdA:						
Cyclone	0-17	15.0-24.0-30.0	---	6.1-6.7-7.3	0	3.0-4.5-6.0
	17-52	11.0-22.0-25.0	---	6.1-6.7-7.3	0	0.5-1.2-2.0
	52-58	11.0-18.0-25.0	---	6.6-6.7-7.3	0-0-5	0.5-1.2-2.0
	58-65	7.0-12.0-17.0	---	6.6-7.4-7.8	0-13-25	0.5-0.8-1.0
	65-80	6.0-10.0-17.0	---	7.4-7.9-8.4	15-28-40	0.5-0.8-1.0
DfnA:						
Dubois	0-10	10.0-15.0-20.0	5.0-10.0-16.0	4.5-5.9-7.3	0	1.0-2.0-3.0
	10-17	6.0-10.0-14.0	4.0-8.0-11.0	4.5-5.0-6.5	0	0.0-0.5-1.0
	17-38	---	4.0-9.0-14.0	3.5-4.4-5.0	0	0.0-0.2-0.5
	38-82	---	4.0-8.0-12.0	3.5-5.0-5.5	0	0.0-0.2-0.5
	82-96	8.0-12.0-20.0	6.0-9.0-16.0	5.1-6.5-7.3	0	0.0-0.2-0.5
DfnB2:						
Dubois	0-6	10.0-15.0-20.0	5.0-10.0-16.0	4.5-5.9-7.3	0	1.0-2.0-3.0
	6-10	6.0-10.0-14.0	4.0-8.0-11.0	4.5-5.0-6.5	0	0.0-0.5-1.0
	10-28	---	4.0-9.0-14.0	3.5-4.4-5.0	0	0.0-0.2-0.5
	28-68	---	4.0-8.0-12.0	3.5-5.0-5.5	0	0.0-0.2-0.5
	68-80	8.0-12.0-20.0	6.0-9.0-16.0	5.1-6.5-7.3	0	0.0-0.2-0.5
DtwC2:						
Deputy	0-8	12.0-16.0-20.0	6.0-10.0-15.0	4.5-5.9-7.3	0	1.0-2.0-3.0
	8-27	8.0-14.0-18.0	5.0-10.0-15.0	4.5-4.9-6.0	0	0.0-0.5-1.0
	27-53	---	8.0-12.0-16.0	3.5-4.5-5.0	0	0.0-0.2-0.5
	53-77	---	---	3.5-4.5-5.0	---	---
	77-87	---	---	---	---	---
DtzC3:						
Deputy, severely eroded	0-4	13.0-17.0-24.0	9.0-12.0-16.0	4.5-5.9-7.3	0	0.5-1.0-2.0
	4-17	8.0-14.0-18.0	5.0-10.0-15.0	4.5-4.9-6.0	0	0.0-0.5-1.0
	17-43	---	8.0-12.0-16.0	3.5-4.5-5.0	0	0.0-0.2-0.5
	43-60	---	---	3.5-4.5-5.0	---	---
	60-80	---	---	---	---	---
Trappist, severely eroded	0-6	13.0-17.0-24.0	9.0-12.0-16.0	3.5-5.9-7.3	0	0.5-1.2-2.0
	6-21	11.0-14.0-17.0	9.0-12.0-15.0	3.5-4.6-6.5	0	0.0-0.2-0.5
	21-24	---	5.0-8.0-12.0	3.5-4.7-5.5	0	0.0-0.2-0.5
	24-40	---	---	---	---	---
EepAQ:						
Elkinsville	0-9	6.0-10.0-20.0	4.0-7.0-12.0	4.5-5.9-7.3	0	1.0-2.0-3.0
	9-24	8.0-14.0-18.0	6.0-11.0-15.0	4.5-5.9-7.3	0	0.0-0.5-1.0
	24-58	---	10.0-13.0-16.0	4.5-5.0-5.5	0	0.0-0.2-0.5
	58-68	---	8.0-11.0-15.0	4.5-5.2-5.5	0	0.0-0.2-0.5
	68-80	7.0-12.0-15.0	6.0-10.0-12.0	4.5-5.6-6.0	0	0.0-0.2-0.5
EesB2:						
Elkinsville	0-8	8.0-12.0-20.0	5.0-8.0-11.0	4.5-5.9-7.3	0	1.0-1.8-3.0
	8-34	8.0-12.0-15.0	6.0-9.0-12.0	4.5-4.7-7.3	0	0.0-0.4-1.0
	34-60	---	4.0-7.0-12.0	4.5-4.7-5.5	0	0.0-0.2-0.5
	60-80	8.0-11.0-14.0	6.0-9.0-12.0	4.5-4.7-6.0	0	0.0-0.2-0.5
Millstone	0-10	4.0-7.0-12.0	3.0-4.0-8.0	4.5-5.9-7.3	0	1.0-1.5-3.0
	10-62	5.0-8.0-12.0	4.0-7.0-10.0	4.5-4.7-6.0	0	0.0-0.2-0.8
	62-80	5.0-6.0-12.0	4.0-5.0-10.0	4.5-4.6-6.0	0	0.0-0.2-0.5

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent	Organic matter
	In	meq/100 g	meq/100 g	pH	Pct	Pct
FdbA:						
Fincastle------------	0-10	10.0-15.0-20.0	8.0-11.0-15.0	5.1-5.9-7.3	0	1.0-2.0-3.0
	10-13	10.0-15.0-20.0	8.0-11.0-15.0	5.1-5.9-7.3	0	1.0-2.0-3.0
	13-27	15.0-20.0-25.0	11.0-15.0-19.0	5.1-5.8-6.5	0	0.5-0.8-1.0
	27-50	15.0-20.0-25.0	11.0-15.0-19.0	5.1-6.9-7.8	0-0-5	0.0-0.2-0.5
	50-59	5.0-10.0-15.0	---	6.6-7.4-8.4	0-12-30	0.0-0.2-0.5
	59-80	5.0-10.0-15.0	---	7.4-8.0-8.4	15-24-40	0.0-0.2-0.5
FdqB:						
Fincastle------------	0-10	10.0-15.0-20.0	8.0-11.0-15.0	5.1-6.2-7.3	0	1.0-2.0-3.0
	10-13	10.0-15.0-20.0	8.0-11.0-15.0	5.1-6.2-7.3	0	1.0-2.0-3.0
	13-27	15.0-20.0-25.0	11.0-15.0-19.0	5.1-5.5-6.5	0	0.5-0.8-1.0
	27-50	15.0-20.0-25.0	11.0-15.0-19.0	5.1-6.5-7.8	0-0-10	0.0-0.2-0.5
	50-59	5.0-10.0-15.0	---	6.6-7.4-8.4	5-12-30	0.0-0.2-0.5
	59-80	5.0-10.0-15.0	---	7.4-7.9-8.4	15-28-40	0.0-0.2-0.5
Xenia----------------	0-8	6.0-16.0-18.0	---	5.6-6.5-7.3	0	1.0-1.5-3.0
	8-30	12.0-23.0-26.0	9.0-17.0-20.0	5.1-6.2-7.3	0	0.5-0.8-1.0
	30-50	11.0-22.0-24.0	---	5.6-6.5-7.3	0	0.5-0.8-1.0
	50-58	6.0-16.0-17.0	---	6.6-7.9-8.4	0-10-20	0.0-0.2-0.5
	58-80	5.0-8.5-12.0	---	7.4-7.9-8.4	15-28-40	0.0-0.2-0.5
GmsF:						
Greybrook------------	0-5	12.0-18.0-22.0	10.0-12.0-15.0	4.5-4.7-6.0	0	2.0-3.0-4.0
	5-15	---	4.0-9.0-12.0	4.5-4.6-5.0	0	0.5-1.2-2.0
	15-62	9.0-18.0-21.0	6.0-11.0-16.0	4.5-5.5-7.3	0	0.0-0.2-0.5
	62-80	9.0-16.0-19.0	---	6.1-7.4-7.8	0-5-20	0.0-0.2-0.5
HccB2:						
Haubstadt------------	0-7	9.0-12.0-22.0	5.0-8.0-12.0	4.5-5.9-7.3	0	1.0-2.0-3.0
	7-32	8.0-13.0-17.0	7.0-11.0-15.0	4.5-5.5-6.5	0	0.5-0.8-1.0
	32-61	---	6.0-9.0-12.0	4.5-4.6-5.5	0	0.0-0.2-0.5
	61-80	14.0-17.0-20.0	10.0-13.0-16.0	4.5-5.0-7.3	0	0.0-0.2-0.5
HcgAH:						
Haymond--------------	0-10	4.0-10.0-15.0	---	5.6-6.2-7.3	0	1.0-2.0-3.0
	10-44	10.0-13.0-16.0	---	5.6-6.2-7.3	0	0.5-1.2-2.0
	44-60	3.0-9.0-16.0	---	6.1-6.6-7.8	0	0.0-0.5-1.0
HcgAW:						
Haymond--------------	0-9	4.0-10.0-15.0	---	5.6-6.4-7.3	0	1.0-2.0-3.0
	9-44	10.0-13.0-16.0	---	5.6-6.4-7.3	0	0.5-1.2-2.0
	44-60	3.0-9.0-16.0	---	6.1-6.6-7.3	0	0.0-0.5-1.0
HcpAP:						
Haymond, frequently ponded, depression--	0-10	4.0-10.0-15.0	---	5.6-6.2-7.3	0	1.0-2.0-3.0
	10-44	10.0-13.0-16.0	---	5.6-6.2-7.3	0	0.5-1.2-2.0
	44-60	3.0-9.0-16.0	---	6.1-6.6-7.8	0	0.0-0.5-1.0
HeeG:						
Hickory--------------	0-6	7.0-13.0-19.0	5.0-10.0-16.0	4.5-5.0-6.0	0	2.0-3.0-4.0
	6-38	10.0-16.0-22.0	8.0-14.0-20.0	4.5-5.3-6.0	0	0.0-0.2-0.5
	38-44	9.0-14.0-19.0	6.0-11.0-16.0	5.1-6.5-7.8	0-0-15	0.0-0.2-0.5
	44-80	5.0-10.0-15.0	---	7.4-7.8-8.4	5-20-25	0.0-0.2-0.5
HizE2:						
Hickory--------------	0-6	9.0-11.0-16.0	6.0-9.0-12.0	4.5-5.5-6.0	0	1.0-2.0-4.0
	6-38	10.0-16.0-22.0	8.0-14.0-20.0	4.5-5.3-6.0	0	0.0-0.2-0.5
	38-44	9.0-14.0-19.0	6.0-11.0-16.0	5.1-6.5-7.8	0-0-15	0.0-0.2-0.5
	44-80	5.0-10.0-15.0	---	7.4-7.9-8.4	0-20-25	0.0-0.2-0.5

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent	Organic matter
	In	meq/100 g	meq/100 g	pH	Pct	Pct
HizE2:						
Grayford	0-7	9.0-12.0-20.0	5.0-8.0-12.0	4.5-5.9-7.3	0	1.0-2.0-3.0
	7-16	8.0-12.0-17.0	7.0-10.0-14.0	4.5-5.5-7.3	0	0.0-0.2-0.5
	16-45	---	6.0-9.0-13.0	4.5-5.0-5.5	0	0.0-0.2-0.5
	45-52	14.0-24.0-35.0	12.0-22.0-33.0	5.1-5.5-7.3	0	0.0-0.2-0.5
	52-60	---	---	---	---	---
HizE3:						
Hickory, severely eroded	0-4	12.0-16.0-20.0	8.0-12.0-16.0	4.5-5.9-7.3	0	0.1-1.2-2.0
	4-33	10.0-16.0-25.0	8.0-14.0-20.0	4.5-5.3-6.0	0	0.0-0.2-0.5
	33-40	7.0-13.0-20.0	---	5.6-6.5-7.8	0-0-15	0.0-0.2-0.5
	40-80	5.0-10.0-15.0	---	7.4-7.9-8.4	5-20-25	0.0-0.2-0.5
Grayford, severely eroded	0-7	9.0-12.0-20.0	5.0-8.0-12.0	4.5-5.9-7.3	0	0.5-1.2-2.0
	7-12	8.0-12.0-17.0	7.0-10.0-14.0	4.5-5.5-7.3	0	0.0-0.2-0.5
	12-42	---	6.0-9.0-13.0	4.5-5.0-5.5	0	0.0-0.2-0.5
	42-49	14.0-24.0-35.0	12.0-22.0-33.0	5.1-5.5-7.3	0	0.0-0.2-0.5
	49-60	---	---	---	---	---
HleAW:						
Holton	0-14	5.0-8.0-12.0	---	5.6-6.1-7.3	0	1.0-1.5-2.0
	14-41	3.0-7.0-10.0	2.0-5.0-8.0	5.1-6.1-7.3	0	0.0-0.5-1.0
	41-60	3.0-8.0-14.0	---	6.1-6.6-7.3	0	0.0-0.2-0.5
MhyB2:						
Medora	0-8	8.0-13.0-22.0	5.0-8.0-12.0	4.5-5.9-7.3	0	1.0-1.9-3.0
	8-21	9.0-11.0-14.0	7.0-9.0-12.0	4.5-5.0-6.5	0	0.0-0.2-0.5
	21-45	---	5.0-8.0-11.0	4.5-4.8-5.0	0	0.0-0.2-0.5
	45-80	---	10.0-13.0-18.0	4.5-5.0-5.5	0	0.0-0.2-0.5
MhyC3:						
Medora, severely eroded	0-7	9.0-14.0-24.0	7.0-10.0-14.0	4.5-5.9-7.3	0	0.5-1.2-2.0
	7-16	9.0-11.0-14.0	7.0-9.0-12.0	4.5-5.0-6.5	0	0.0-0.2-0.5
	16-35	---	5.0-8.0-11.0	4.5-4.8-5.0	0	0.0-0.2-0.5
	35-80	---	10.0-13.0-18.0	4.5-5.0-5.5	0	0.0-0.2-0.5
MmoC3:						
Miami, severely eroded	0-6	7.0-12.0-17.0	---	5.6-6.5-7.3	0	0.0-0.5-1.0
	6-29	9.0-14.5-20.0	7.0-11.0-15.0	5.1-6.1-7.3	0	0.0-0.2-0.5
	29-34	4.0-7.5-11.0	---	6.6-7.4-7.8	0-10-20	0.0-0.2-0.5
	34-80	2.0-5.5-9.0	---	7.4-7.9-8.4	20-33-45	0.0-0.2-0.5
MmoD3:						
Miami, severely eroded	0-6	7.0-12.0-17.0	---	5.6-6.5-7.3	0	0.0-0.5-1.0
	6-29	9.0-14.5-20.0	7.0-11.0-15.0	5.1-6.1-7.3	0	0.0-0.2-0.5
	29-34	4.0-7.5-11.0	---	6.6-7.4-7.8	0-10-20	0.0-0.2-0.5
	34-80	2.0-5.5-9.0	---	7.4-7.9-8.4	20-33-45	0.0-0.2-0.5
MnpC2:						
Miami	0-7	6.0-10.5-17.0	---	5.6-6.5-7.3	0	1.0-1.4-3.0
	7-13	16.0-20.0-25.0	12.0-15.0-19.0	5.1-5.9-7.3	0	0.5-0.8-1.0
	13-31	9.0-14.5-20.0	7.0-11.0-15.0	5.1-5.5-7.3	0	0.0-0.2-0.5
	31-36	4.0-7.5-11.0	---	6.6-7.4-7.8	0-10-20	0.0-0.2-0.5
	36-80	2.0-5.5-9.0	---	7.4-7.9-8.4	20-33-45	0.0-0.2-0.5

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent	Organic matter
	In	meq/100 g	meq/100 g	pH	Pct	Pct
MnpD2:						
Miami----------------	0-7	6.0-10.5-17.0	---	5.6-6.5-7.3	0	1.0-1.2-3.0
	7-13	16.0-20.0-25.0	12.0-15.0-19.0	5.1-5.9-7.3	0	0.5-0.8-1.0
	13-31	9.0-14.5-20.0	7.0-11.0-15.0	5.1-5.5-7.3	0	0.0-0.2-0.5
	31-36	4.0-7.5-11.0	---	6.6-7.4-7.8	0-10-20	0.0-0.2-0.5
	36-80	2.0-5.5-9.0	---	7.4-7.9-8.4	20-33-45	0.0-0.2-0.5
NaaA:						
Nabb-----------------	0-10	7.0-11.0-20.0	4.0-8.0-12.0	4.5-5.9-7.3	0	1.0-2.0-3.0
	10-18	7.0-10.0-13.0	4.0-6.0-10.0	4.5-5.3-6.5	0	0.0-0.5-1.0
	18-35	---	8.0-12.0-16.0	3.5-4.8-5.5	0	0.0-0.2-0.5
	35-76	---	6.0-9.0-12.0	3.5-4.6-5.5	0	0.0-0.2-0.5
	76-80	15.0-17.0-22.0	12.0-14.0-19.0	5.1-5.6-7.3	0	0.0-0.2-0.5
NaaB2:						
Nabb-----------------	0-7	7.0-11.0-20.0	4.0-8.0-12.0	4.5-5.9-7.3	0	1.0-1.9-3.0
	7-13	7.0-10.0-13.0	4.0-7.0-12.0	4.5-5.3-6.5	0	0.0-0.5-1.0
	13-33	---	8.0-12.0-16.0	3.5-4.8-5.5	0	0.0-0.2-0.5
	33-71	---	6.0-9.0-12.0	3.5-4.6-5.5	0	0.0-0.2-0.5
	71-80	15.0-17.0-22.0	12.0-14.0-19.0	5.1-5.6-7.3	0	0.0-0.2-0.5
OfaAW:						
Oldenburg------------	0-9	6.0-10.0-16.0	4.0-8.0-11.0	5.1-6.6-7.3	0	1.0-1.5-2.0
	9-39	5.0-7.0-13.0	4.0-6.0-11.0	5.1-6.6-7.3	0	0.5-0.8-1.0
	39-60	2.0-3.0-10.0	---	5.6-6.6-7.3	0	0.0-0.2-0.5
OmkC2:						
Otwell---------------	0-7	6.0-11.0-15.0	4.0-8.0-11.0	4.5-5.9-7.3	0	1.0-2.0-3.0
	7-27	---	7.0-11.0-15.0	4.5-5.0-5.5	0	0.0-0.2-0.5
	27-55	---	6.0-11.0-12.0	4.5-5.0-5.5	0	0.0-0.2-0.5
	55-80	8.0-12.0-15.0	6.0-10.0-14.0	5.1-6.0-6.6	0	0.0-0.2-0.5
OmkC3:						
Otwell, severely eroded--------------	0-5	10.0-14.0-25.0	6.0-9.0-14.0	4.5-5.9-7.3	0	0.5-1.2-2.0
	5-14	---	7.0-11.0-15.0	4.5-5.0-5.5	0	0.0-0.2-0.5
	14-52	---	6.0-11.0-12.0	4.5-5.0-5.5	0	0.0-0.2-0.5
	52-80	8.0-12.0-15.0	6.0-10.0-14.0	5.1-6.0-6.6	0	0.0-0.2-0.5
Omz.						
Orthents						
PcrA:						
Pekin----------------	0-8	6.0-11.0-18.0	4.0-9.0-14.0	4.5-5.9-7.3	0	1.0-2.0-3.0
	8-29	8.0-11.0-15.0	6.0-9.0-13.0	4.5-4.8-7.3	0	0.5-0.8-1.0
	29-58	---	8.0-12.0-16.0	3.5-4.3-5.5	0	0.0-0.2-0.5
	58-80	6.0-12.0-18.0	5.0-10.0-15.0	4.5-4.9-7.3	0	0.0-0.2-0.5
PcrB2:						
Pekin----------------	0-9	6.0-11.0-18.0	4.0-9.0-14.0	4.5-5.9-7.3	0	1.0-1.9-3.0
	9-24	7.0-11.0-15.0	6.0-9.0-13.0	4.5-4.8-7.3	0	0.5-0.8-1.0
	24-45	---	8.0-12.0-16.0	3.5-4.3-5.5	0	0.0-0.2-0.5
	45-80	6.0-12.0-18.0	5.0-10.0-15.0	4.5-4.9-7.3	0	0.0-0.2-0.5
PcrC2:						
Pekin, eroded--------	0-8	6.0-11.0-18.0	4.0-9.0-14.0	4.5-5.9-7.3	0	1.0-1.9-3.0
	8-28	7.0-11.0-15.0	6.0-9.0-13.0	4.5-4.8-7.3	0	0.5-0.8-1.0
	28-57	---	8.0-12.0-16.0	3.5-4.3-5.5	0	0.0-0.2-0.5
	57-80	6.0-12.0-18.0	5.0-10.0-15.0	4.5-4.9-7.3	0	0.0-0.2-0.5

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent	Organic matter
	In	meq/100 g	meq/100 g	pH	Pct	Pct
PhaA:						
Peoga	0-8	8.0-12.0-22.0	4.0-8.0-12.0	4.5-5.9-7.3	0	1.0-2.0-3.0
	8-19	6.0-9.0-11.0	4.0-6.0-8.0	3.5-4.7-6.5	0	0.0-0.5-1.0
	19-36	---	7.0-12.0-15.0	3.5-4.7-5.5	0	0.0-0.2-0.5
	36-76	12.0-15.0-20.0	9.0-12.0-15.0	3.5-5.0-6.0	0	0.0-0.2-0.5
	76-80	12.0-16.0-22.0	10.0-13.0-18.0	5.1-5.6-7.3	0	0.0-0.2-0.5
PlpAH:						
Piopolis	0-10	11.0-15.0-20.0	8.0-11.0-14.0	5.1-5.9-7.3	0	1.0-2.0-3.0
	10-31	---	8.0-11.0-14.0	4.5-5.2-5.5	0	0.0-0.5-1.0
	31-60	11.0-14.0-18.0	8.0-11.0-15.0	4.5-5.4-7.3	0	0.0-0.5-1.0
PlpAHU:						
Piopolis, undrained	0-10	11.0-15.0-20.0	8.0-11.0-14.0	5.1-5.9-7.3	0	1.0-2.0-3.0
	10-31	---	8.0-11.0-14.0	4.5-5.2-5.5	0	0.0-0.5-1.0
	31-60	11.0-14.0-18.0	8.0-11.0-15.0	4.5-5.4-7.3	0	0.0-0.5-1.0
Pml.						
Pits, quarry						
RptG:						
Rohan	0-4	9.0-14.0-20.0	5.0-9.0-12.0	4.5-5.2-6.0	0	1.0-2.0-3.0
	4-16	---	3.0-9.0-14.0	3.5-4.6-5.5	0	0.0-0.5-1.0
	16-40	---	---	---	---	---
Jessietown	0-5	---	4.0-9.0-12.0	3.5-4.8-5.5	0	2.0-3.0-4.0
	5-23	---	5.0-9.0-16.0	3.5-4.5-5.5	0	0.5-1.2-2.0
	23-30	---	5.0-11.0-18.0	3.5-4.5-5.5	0	0.5-1.2-2.0
	30-40	---	---	---	---	---
RywB2:						
Russell	0-8	6.0-11.0-18.0	5.0-8.0-14.0	5.1-6.2-7.3	0	1.0-1.5-3.0
	8-13	10.0-18.0-19.0	8.0-11.0-14.0	4.5-5.3-6.0	0	0.5-0.8-1.0
	13-28	17.0-20.0-25.0	13.0-17.0-19.0	4.5-4.9-6.0	0	0.5-0.8-1.0
	28-52	10.0-19.0-22.0	8.0-12.0-17.0	5.1-6.2-7.3	0	0.5-0.8-1.0
	52-58	6.0-11.5-17.0	---	6.6-7.9-8.4	0-10-20	0.0-0.2-0.5
	58-80	5.0-8.5-12.0	---	7.4-7.9-8.4	15-28-40	0.0-0.2-0.5
RzfA:						
Ryker, terrace	0-9	4.0-11.0-22.0	4.0-8.0-12.0	4.5-5.9-7.3	0	1.0-2.0-3.0
	9-12	7.0-10.0-15.0	6.0-8.0-12.0	4.5-5.5-7.3	0	0.5-0.8-1.0
	12-30	10.0-13.0-16.0	8.0-11.0-14.0	4.5-5.2-7.3	0	0.0-0.5-1.0
	30-73	---	4.5-5.0-5.5	4.5-5.0-5.5	0	
	73-120	14.0-24.0-35.0	12.0-22.0-33.0	5.1-5.5-7.3	0	0.0-0.2-0.5
Muscatatuck, terrace	0-10	7.0-10.0-20.0	4.0-7.0-12.0	4.5-5.9-7.3	0	1.0-2.0-3.0
	10-25	6.0-11.0-14.0	5.0-9.0-12.0	4.5-4.9-6.5	0	0.0-0.5-1.0
	25-36	6.0-10.0-14.0	5.0-7.0-12.0	4.5-4.9-6.0	0	0.0-0.2-0.5
	36-67	---	5.0-12.0-18.0	4.5-5.0-5.5	0	0.0-0.2-0.5
	67-120	14.0-24.0-35.0	12.0-22.0-33.0	5.1-5.5-7.3	0	0.0-0.2-0.5
RzfB2:						
Ryker, terrace	0-7	4.0-11.0-22.0	4.0-8.0-12.0	4.5-5.9-7.3	0	1.0-2.0-3.0
	7-9	7.0-10.0-15.0	6.0-8.0-12.0	4.5-5.5-7.3	0	0.5-0.8-1.0
	9-30	10.0-13.0-16.0	8.0-11.0-14.0	4.5-5.2-7.3	0	0.0-0.5-1.0
	30-73	---	5.0-12.0-18.0	4.5-5.0-5.5	0	0.0-0.2-0.5
	73-120	14.0-24.0-35.0	12.0-22.0-33.0	5.1-5.5-7.3	0	0.0-0.2-0.5

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent	Organic matter
	In	meq/100 g	meq/100 g	pH	Pct	Pct
RzfB2:						
Muscatatuck, terrace	0-8	7.0-10.0-20.0	4.0-7.0-12.0	4.5-5.9-7.3	0	1.0-2.0-3.0
	8-25	6.0-11.0-14.0	5.0-9.0-12.0	4.5-4.9-6.5	0	0.0-0.5-1.0
	25-36	6.0-10.0-14.0	5.0-7.0-12.0	4.5-4.9-6.0	0	0.0-0.2-0.5
	36-67	---	5.0-12.0-18.0	4.5-5.0-5.5	0	0.0-0.2-0.5
	67-120	14.0-24.0-35.0	12.0-22.0-33.0	5.1-5.5-7.3	0	0.0-0.2-0.5
RzgA:						
Ryker----------------	0-9	4.0-11.0-22.0	4.0-8.0-12.0	4.5-5.9-7.3	0	1.0-2.0-3.0
	9-12	7.0-10.0-15.0	6.0-8.0-12.0	4.5-5.5-7.3	0	0.5-0.8-1.0
	12-38	10.0-13.0-16.0	8.0-11.0-14.0	4.5-5.2-7.3	0	0.0-0.5-1.0
	38-67	---	5.0-12.0-18.0	4.5-5.0-5.5	0	0.0-0.2-0.5
	67-80	13.0-29.0-45.0	11.0-25.0-40.0	4.5-5.0-7.3	0	0.0-0.2-0.5
Muscatatuck----------	0-8	7.0-10.0-20.0	4.0-7.0-12.0	4.5-5.9-7.3	0	1.0-2.0-3.0
	8-25	6.0-11.0-14.0	5.0-9.0-12.0	4.5-4.9-6.5	0	0.0-0.5-1.0
	25-36	6.0-10.0-14.0	5.0-7.0-12.0	4.5-4.9-6.0	0	0.0-0.2-0.5
	36-49	---	5.0-12.0-18.0	4.5-5.0-5.5	0	0.0-0.2-0.5
	49-80	---	5.0-12.0-18.0	4.5-5.0-5.5	0	0.0-0.2-0.5
RzgB2:						
Ryker----------------	0-6	4.0-12.0-22.0	4.0-8.0-12.0	4.5-5.9-7.3	0	1.0-1.9-3.0
	6-10	7.0-10.0-15.0	6.0-8.0-12.0	4.5-5.5-7.3	0	0.5-0.8-1.0
	10-34	10.0-13.0-16.0	8.0-11.0-14.0	4.5-5.2-7.3	0	0.0-0.5-1.0
	34-63	---	5.0-12.0-18.0	4.5-5.0-5.5	0	0.0-0.2-0.5
	63-80	13.0-29.0-45.0	11.0-25.0-40.0	4.5-5.0-7.3	0	0.0-0.2-0.5
Muscatatuck----------	0-8	7.0-10.0-20.0	4.0-7.0-12.0	4.5-5.9-7.3	0	1.0-2.0-3.0
	8-25	6.0-11.0-14.0	5.0-9.0-12.0	4.5-4.9-6.5	0	0.0-0.5-1.0
	25-36	6.0-10.0-14.0	5.0-7.0-12.0	4.5-4.9-6.0	0	0.0-0.2-0.5
	36-49	---	5.0-12.0-18.0	4.5-5.0-5.5	0	0.0-0.2-0.5
	49-80	---	5.0-12.0-18.0	4.5-5.0-5.5	0	0.0-0.2-0.5
RzgC2:						
Ryker----------------	0-8	9.0-12.0-22.0	4.0-8.0-12.0	4.5-5.9-7.3	0	1.0-1.9-3.0
	8-32	10.0-13.0-16.0	8.0-11.0-14.0	4.5-5.2-7.3	0	0.0-0.5-1.0
	32-58	---	5.0-12.0-18.0	4.5-5.0-5.5	0	0.0-0.2-0.5
	58-78	13.0-29.0-45.0	11.0-25.0-40.0	4.5-5.0-7.3	0	0.0-0.2-0.5
	78-80	---	---	---	---	---
Muscatatuck----------	0-8	7.0-10.0-20.0	4.0-7.0-12.0	4.5-5.9-7.3	0	1.0-2.0-3.0
	8-25	6.0-11.0-14.0	5.0-9.0-12.0	4.5-4.9-6.5	0	0.0-0.5-1.0
	25-36	6.0-10.0-14.0	5.0-7.0-12.0	4.5-4.9-6.0	0	0.0-0.2-0.5
	36-49	---	5.0-12.0-18.0	4.5-5.0-5.5	0	0.0-0.2-0.5
	49-80	---	5.0-12.0-18.0	4.5-5.0-5.5	0	0.0-0.2-0.5
RzhC3:						
Ryker, severely eroded--------------	0-7	9.0-12.0-20.0	4.0-8.0-12.0	4.5-5.9-7.3	0	0.5-1.2-2.0
	7-25	10.0-13.0-16.0	8.0-11.0-14.0	4.5-5.2-7.3	0	0.0-0.5-1.0
	25-54	---	5.0-12.0-18.0	4.5-5.0-5.5	0	0.0-0.2-0.5
	54-78	13.0-29.0-45.0	11.0-25.0-40.0	4.5-5.0-7.3	0	0.0-0.2-0.5
	78-80	---	---	---	---	---
Grayford, severely eroded--------------	0-7	4.0-7.0-12.0	3.0-4.0-8.0	4.5-5.9-7.3	0	1.0-1.2-2.0
	7-12	8.0-12.0-17.0	7.0-10.0-14.0	4.5-5.5-7.3	0	0.0-0.2-0.5
	12-42	---	6.0-9.0-13.0	4.5-5.0-5.5	0	0.0-0.2-0.5
	42-52	14.0-24.0-35.0	12.0-22.0-33.0	5.1-5.5-7.3	0	0.0-0.2-0.5
	52-60	---	---	---	---	---

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent	Organic matter
	In	meq/100 g	meq/100 g	pH	Pct	Pct
RzhC3:						
Muscatatuck, severely eroded	0-4	7.0-10.0-20.0	4.0-7.0-12.0	4.5-5.9-7.3	0	1.0-1.5-2.0
	4-22	6.0-11.0-14.0	5.0-9.0-12.0	4.5-4.9-6.5	0	0.0-0.5-1.0
	22-33	6.0-10.0-14.0	5.0-7.0-12.0	4.5-4.9-6.0	0	0.0-0.2-0.5
	33-46	---	5.0-12.0-18.0	4.5-5.0-5.5	0	0.0-0.2-0.5
	46-80	13.0-29.0-45.0	11.0-25.0-40.0	4.5-5.0-7.3	0	0.0-0.2-0.5
SceA:						
Scottsburg	0-8	9.0-14.0-22.0	4.0-5.0-12.0	4.5-5.9-7.3	0	1.0-2.0-3.0
	8-31	6.0-9.0-14.0	5.0-8.0-12.0	4.5-4.8-6.5	0	0.0-0.2-0.5
	31-53	---	8.0-10.0-12.0	3.5-4.4-5.0	0	0.0-0.2-0.5
	53-61	---	10.0-12.0-15.0	3.5-4.3-5.0	0	0.5-0.8-1.0
	61-67	---	---	3.5-4.5-5.0	---	---
	67-80	---	---	---	---	---
ScfB2:						
Scottsburg	0-8	9.0-14.0-22.0	4.0-5.0-12.0	4.5-5.9-7.3	0	1.0-2.0-3.0
	8-31	6.0-9.0-14.0	5.0-8.0-12.0	4.5-4.8-6.5	0	0.0-0.2-0.5
	31-53	---	8.0-10.0-12.0	3.5-4.4-5.0	0	0.0-0.2-0.5
	53-61	---	10.0-12.0-15.0	3.5-4.3-5.0	0	0.5-0.8-1.0
	61-67	---	---	3.5-4.5-5.0	---	---
	67-80	---	---	---	---	---
Deputy	0-8	12.0-16.0-20.0	6.0-10.0-15.0	4.5-5.9-7.3	0	1.0-1.9-3.0
	8-27	8.0-14.0-18.0	5.0-10.0-15.0	4.5-4.9-6.5	0	0.0-0.5-1.0
	27-53	---	8.0-12.0-16.0	3.5-4.5-5.0	0	0.0-0.2-0.5
	53-77	---	---	3.5-4.5-5.0	---	---
	77-87	---	---	---	---	---
SifE:						
Senachwine	0-8	9.0-15.5-22.0	---	5.6-6.6-7.3	0	1.0-2.0-3.0
	8-26	9.0-15.5-22.0	7.0-12.0-17.0	5.1-6.6-7.3	0	1.0-2.0-3.0
	26-32	11.0-18.0-25.0	---	6.6-7.4-7.8	0-15-30	0.5-1.2-2.0
	32-80	7.0-12.0-17.0	---	7.4-7.9-8.4	25-28-40	0.5-0.8-1.0
SifG:						
Senachwine	0-6	9.0-15.5-22.0	---	5.6-6.6-7.3	0	1.0-2.0-3.0
	6-26	9.0-15.5-22.0	7.0-12.0-17.0	5.1-6.6-7.3	0	1.0-2.0-3.0
	26-32	11.0-18.0-25.0	---	6.6-7.4-7.8	0-15-30	0.5-1.2-2.0
	32-80	7.0-12.0-17.0	---	7.4-7.9-8.4	25-28-40	0.5-0.8-1.0
SldAW:						
Shoals	0-8	12.0-19.5-27.0	---	6.6-7.2-7.8	0-0-5	2.0-3.0-4.0
	8-33	8.0-16.0-24.0	---	6.6-7.2-8.4	0-0-10	0.5-1.2-2.0
	33-60	3.0-11.0-19.0	---	6.6-7.5-8.4	0-13-25	0.5-1.2-2.0
StaAH:						
Steff	0-10	8.0-12.0-20.0	5.0-9.0-15.0	4.5-5.9-7.3	0	1.0-2.0-3.0
	10-31	---	5.0-7.0-12.0	4.5-5.0-5.5	0	0.0-0.5-1.0
	31-60	---	5.0-8.0-14.0	4.5-5.0-5.5	0	0.0-0.2-0.5
StaAQ:						
Steff	0-11	8.0-13.0-20.0	5.0-10.0-15.0	4.5-5.9-7.3	0	1.0-2.0-3.0
	11-41	6.0-9.0-17.0	5.0-7.0-15.0	4.5-5.0-6.5	0	0.0-0.5-1.0
	41-60	---	5.0-8.0-15.0	4.5-5.0-5.5	0	0.0-0.2-0.5
StdAH:						
Stendal	0-11	8.0-14.0-20.0	5.0-10.0-15.0	4.5-5.9-7.3	0	1.0-2.0-3.0
	11-41	---	5.0-10.0-15.0	4.5-5.0-5.5	0	0.0-0.5-1.0
	41-60	---	5.0-10.0-15.0	4.5-5.1-5.5	0	0.0-0.2-0.5

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent	Organic matter
	In	meq/100 g	meq/100 g	pH	Pct	Pct
StdAQ:						
Stendal--------------	0-8	8.0-14.0-20.0	5.0-10.0-15.0	4.5-5.9-7.3	0	1.0-2.0-3.0
	8-40	6.0-12.0-17.0	5.0-10.0-15.0	4.5-5.0-6.5	0	0.0-0.5-1.0
	40-60	---	5.0-10.0-15.0	4.5-5.1-5.5	0	0.0-0.2-0.5
SuoAH:						
Stonelick------------	0-10	5.0-10.0-15.0	---	7.4-7.9-8.4	0-5-10	1.0-2.0-3.0
	10-60	5.0-7.5-10.0	---	7.4-7.9-8.4	10-20-30	0.5-1.2-2.0
ThbD4:						
Trappist, very severely eroded-----	0-3	13.0-17.0-24.0	9.0-12.0-16.0	4.5-4.5-6.0	0	0.1-0.5-1.0
	3-20	---	9.0-12.0-15.0	3.5-4.6-5.5	0	0.0-0.2-0.5
	20-30	---	---	3.5-4.5-5.0	---	---
	30-40	---	---	---	---	---
ThcD3:						
Trappist, severely eroded--------------	0-4	13.0-17.0-24.0	9.0-12.0-16.0	4.5-5.4-7.3	0	0.5-1.2-2.0
	4-21	11.0-14.0-17.0	9.0-12.0-15.0	3.5-4.6-6.5	0	0.0-0.2-0.5
	21-27	---	5.0-8.0-12.0	3.5-4.7-5.5	0	0.0-0.2-0.5
	27-40	---	---	---	---	---
Rohan, severely eroded--------------	0-3	9.0-14.0-22.0	6.0-11.0-16.0	4.5-5.2-7.3	0	0.5-1.2-2.0
	3-12	4.0-7.0-16.0	3.0-6.0-14.0	3.5-4.6-6.5	0	0.0-0.5-1.0
	12-40	---	---	---	---	---
ThdD2:						
Trappist-------------	0-6	9.0-12.0-20.0	6.0-9.0-12.0	4.5-4.8-7.3	0	2.0-3.0-4.0
	6-30	11.0-14.0-17.0	9.0-12.0-15.0	3.5-4.6-6.5	0	0.0-0.2-0.5
	30-35	---	5.0-8.0-12.0	3.5-4.7-5.5	0	0.0-0.2-0.5
	35-45	---	---	---	---	---
Rohan----------------	0-3	9.0-14.0-22.0	5.0-9.0-12.0	4.5-5.2-7.3	0	2.0-3.0-4.0
	3-16	4.0-7.0-16.0	3.0-6.0-14.0	3.5-4.6-6.5	0	0.0-0.5-1.0
	16-40	---	---	---	---	---
Uby.						
Udorthents, loamy						
UdaB:						
Urban land.						
Deputy---------------	0-8	12.0-16.0-20.0	6.0-10.0-15.0	4.5-5.9-7.3	0	1.0-2.0-3.0
	8-27	8.0-14.0-18.0	5.0-10.0-15.0	4.5-4.9-6.0	0	0.0-0.5-1.0
	27-53	---	8.0-12.0-16.0	3.5-4.5-5.0	0	0.0-0.2-0.5
	53-77	---	---	3.5-4.5-5.0	---	---
	77-87	---	---	---	---	---
Scottsburg-----------	0-8	9.0-14.0-22.0	4.0-5.0-12.0	4.5-5.9-7.3	0	1.0-2.0-3.0
	8-31	6.0-9.0-14.0	5.0-8.0-12.0	4.5-4.8-6.5	0	0.0-0.2-0.5
	31-53	---	8.0-10.0-12.0	3.5-4.4-5.0	0	0.0-0.2-0.5
	53-61	---	10.0-12.0-15.0	3.5-4.3-5.0	0	0.5-0.8-1.0
	61-67	---	---	3.5-4.5-5.0	---	---
	67-80	---	---	---	---	---

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent	Organic matter
	In	meq/100 g	meq/100 g	pH	Pct	Pct
UfcB:						
Urban land.						
Cincinnati-----------	0-8	7.0-10.0-20.0	4.0-7.0-12.0	4.5-5.9-7.3	0	1.0-2.0-3.0
	8-24	---	5.0-9.0-12.0	4.5-4.9-5.5	0	0.0-0.5-1.0
	24-74	6.0-8.0-14.0	5.0-7.0-12.0	4.5-4.9-6.0	0	0.0-0.2-0.5
	74-80	10.0-14.0-21.0	8.0-12.0-18.0	4.5-5.5-6.5	0	0.0-0.2-0.5
Nabb-----------------	0-7	7.0-11.0-20.0	4.0-8.0-12.0	4.5-5.9-7.3	0	1.0-1.9-3.0
	7-13	7.0-10.0-13.0	4.0-7.0-12.0	4.5-5.3-7.3	0	0.0-0.5-1.0
	13-33	---	8.0-12.0-16.0	3.5-4.8-5.5	0	0.0-0.2-0.5
	33-71	---	6.0-9.0-12.0	3.5-4.6-5.5	0	0.0-0.2-0.5
	71-80	15.0-17.0-22.0	12.0-14.0-19.0	5.1-5.6-7.3	0	0.0-0.2-0.5
UfdA:						
Urban land.						
Cobbsfork------------	0-12	6.0-10.0-18.0	3.0-7.0-10.0	4.5-5.9-7.3	0	1.0-1.6-3.0
	12-18	---	4.0-6.0-8.0	4.5-5.0-5.5	0	0.0-0.5-1.0
	18-38	---	6.0-11.0-15.0	3.5-4.5-5.0	0	0.0-0.2-0.5
	38-50	---	8.0-10.0-12.0	3.5-4.5-5.0	0	0.0-0.2-0.5
	50-85	---	8.0-10.0-12.0	3.5-4.8-5.5	0	0.0-0.2-0.5
	85-90	15.0-19.0-24.0	13.0-16.0-20.0	5.1-6.2-7.3	0	0.0-0.2-0.5
Avonburg-------------	0-11	7.0-12.0-20.0	4.0-6.0-10.0	4.5-5.9-7.3	0	1.0-1.6-2.0
	11-21	---	4.0-6.0-8.0	4.5-5.0-5.5	0	0.0-0.5-1.0
	21-37	---	12.0-13.0-16.0	3.5-4.3-5.0	0	0.0-0.2-0.5
	37-52	---	8.0-10.0-12.0	3.5-4.3-5.0	0	0.0-0.2-0.5
	52-83	---	8.0-10.0-12.0	3.5-4.5-5.5	0	0.0-0.2-0.5
	83-90	16.0-20.0-24.0	13.0-17.0-20.0	5.1-5.9-7.3	0	0.0-0.2-0.5
Usl.						
Udorthents, rubbish						
W.						
Water						
WaaAH:						
Wakeland-------------	0-7	4.0-8.0-12.0	---	5.6-6.4-7.3	0	1.0-2.0-3.0
	7-29	4.0-8.0-12.0	---	5.6-6.4-7.3	0	0.0-0.5-1.0
	29-60	4.0-8.0-12.0	---	5.6-6.4-7.3	0	0.0-0.2-0.5
WaaAW:						
Wakeland-------------	0-7	4.0-9.0-12.0	---	5.6-6.4-7.3	0	1.0-2.0-3.0
	7-29	4.0-9.0-12.0	---	5.6-6.4-7.3	0	0.0-0.5-1.0
	29-60	4.0-9.0-12.0	---	5.6-6.4-7.3	0	0.0-0.2-0.5
WnmA:						
Whitcomb-------------	0-9	8.0-14.0-20.0	6.0-8.0-12.0	4.5-5.9-7.3	0	1.0-1.5-2.0
	9-15	7.0-9.0-14.0	6.0-8.0-12.0	3.5-4.4-6.5	0	0.0-0.5-1.0
	15-30	---	7.0-11.0-15.0	3.5-4.3-5.0	0	0.0-0.2-0.5
	30-48	---	12.0-14.0-17.0	3.5-4.1-5.0	0	0.0-0.2-0.5
	48-56	---	12.0-14.0-17.0	3.5-4.0-5.0	0	0.0-0.3-0.5
	56-61	---	10.0-12.0-15.0	3.5-4.0-5.0	0	0.0-1.2-2.0
	61-80	---	---	---	---	---
WokAH:						
Wilbur---------------	0-7	4.0-10.0-16.0	---	5.6-6.4-7.3	0	1.0-2.0-3.0
	7-32	4.0-9.0-15.0	---	5.6-6.4-7.3	0	0.5-1.2-2.0
	32-60	4.0-10.0-16.0	---	5.6-6.4-7.3	0	0.5-0.8-1.0

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent	Organic matter
	In	meq/100 g	meq/100 g	pH	Pct	Pct
WokAW:						
Wilbur	0-7	4.0-10.0-16.0	---	5.6-6.4-7.3	0	1.0-2.0-3.0
	7-32	4.0-10.0-15.0	---	5.6-6.4-7.3	0	0.5-1.2-2.0
	32-60	4.0-10.0-16.0	---	5.6-6.4-7.3	0	0.5-0.8-1.0
WooAQ:						
Wilhite	0-15	4.0-9.0-12.0	---	5.6-6.4-7.3	0	1.0-2.0-3.0
	15-26	18.0-27.0-36.0	---	5.6-6.2-7.3	0	1.0-2.0-3.0
	26-49	14.0-21.0-30.0	12.0-18.0-24.0	5.1-6.0-7.3	0	0.0-1.0-2.0
	49-60	14.0-20.0-26.0	---	5.6-6.6-7.3	0	0.0-0.5-1.0
WprAV:						
Wirt	0-8	6.0-11.0-15.0	---	5.6-6.5-7.3	0	1.0-2.0-3.0
	8-38	5.0-10.0-13.0	---	5.6-6.5-7.3	0	0.0-0.5-1.0
	38-60	3.0-8.0-12.0	---	5.6-6.5-7.3	0	0.0-0.2-0.5
WprAW:						
Wirt	0-8	6.0-11.0-15.0	---	5.6-6.5-7.3	0	1.0-2.0-3.0
	8-38	5.0-10.0-13.0	---	5.6-6.5-7.3	0	0.0-0.5-1.0
	38-60	3.0-8.0-12.0	---	5.6-6.5-7.3	0	0.0-0.2-0.5
WpuAH:						
Wirt	0-8	6.0-10.0-15.0	---	5.6-6.2-7.3	0	1.0-2.0-3.0
	8-38	5.0-10.0-13.0	---	5.6-6.5-7.3	0	0.0-0.5-1.0
	38-60	3.0-7.0-12.0	---	5.6-6.5-7.3	0	0.0-0.2-0.5
WufB2:						
Williamstown	0-9	10.0-11.5-20.0	8.0-9.0-15.0	5.1-6.2-7.3	0	1.0-1.5-3.0
	9-33	15.0-17.0-25.0	11.0-13.0-19.0	5.1-5.9-7.3	0	0.5-0.8-1.0
	33-37	10.0-15.0-20.0	---	6.6-7.5-8.4	0-5-35	0.0-0.2-0.5
	37-80	5.0-10.0-15.0	---	7.4-7.9-8.4	20-32-45	0.0-0.2-0.5
XabB2:						
Xenia	0-8	6.0-16.0-18.0	---	5.6-6.5-7.3	0	1.0-1.5-3.0
	8-30	12.0-23.0-26.0	9.0-17.0-20.0	5.1-6.2-7.3	0	0.5-0.8-1.0
	30-50	11.0-22.0-24.0	---	5.6-6.5-7.3	0	0.5-0.8-1.0
	50-58	6.0-16.0-17.0	---	6.6-7.9-8.4	0-10-20	0.0-0.2-0.5
	58-80	5.0-8.5-12.0	---	7.4-7.9-8.4	15-28-40	0.0-0.2-0.5
ZnsB:						
Zenas	0-9	4.0-13.0-17.0	3.0-10.0-13.0	4.5-5.9-7.3	0	1.0-2.0-3.0
	9-26	7.0-14.0-20.0	5.0-11.0-15.0	4.5-5.0-7.3	0	0.0-0.5-1.0
	26-42	13.0-25.0-32.0	10.0-19.0-24.0	4.5-5.0-6.0	0	0.0-0.2-0.5
	42-48	17.0-23.0-32.0	---	6.1-6.8-7.3	0	0.0-0.2-0.5
	48-80	---	---	---	---	---

Table 20.--Water Features

(See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding rather than to individual months. Absence of an entry indicates that the feature is not a concern or estimated)

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding		
				Upper limit	Lower limit	Surface water depth	Duration	Frequency
				Ft	Ft	Ft		
AddA:								
Avonburg------------------	C	Medium						
			January	0.5-2.0	3.3-5.0	---	---	None
			February	0.5-2.0	3.3-5.0	---	---	None
			March	0.5-2.0	3.3-5.0	---	---	None
			April	0.5-2.0	3.3-5.0	---	---	None
			May	1.0-3.5	5.0-6.7	---	---	None
			June	2.0-3.5	5.0-6.7	---	---	None
			July	3.5-6.0	>6.0	---	---	None
			August	3.5-6.0	>6.0	---	---	None
			November	1.0-3.0	3.3-5.0	---	---	None
			December	0.5-2.0	3.3-5.0	---	---	None
AddB2:								
Avonburg------------------	C	Medium						
			January	0.5-2.0	3.3-5.0	---	---	None
			February	0.5-2.0	3.3-5.0	---	---	None
			March	0.5-2.0	3.3-5.0	---	---	None
			April	0.5-2.0	3.3-5.0	---	---	None
			May	1.0-3.5	5.0-6.7	---	---	None
			June	2.0-3.5	5.0-6.7	---	---	None
			July	3.5-6.0	>6.0	---	---	None
			August	3.5-6.0	>6.0	---	---	None
			November	1.0-3.0	3.3-5.0	---	---	None
			December	0.5-2.0	3.3-5.0	---	---	None
AzoA:								
Ayrshire------------------	B	Negligible						
			January	0.5-2.0	>6.0	---	---	None
			February	0.5-2.0	>6.0	---	---	None
			March	0.5-2.0	>6.0	---	---	None
			April	0.5-3.0	>6.0	---	---	None
			May	1.5-3.5	>6.0	---	---	None
			June	1.5-3.5	>6.0	---	---	None
			October	1.5-3.5	>6.0	---	---	None
			November	1.5-3.5	>6.0	---	---	None
			December	0.5-3.0	>6.0	---	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency
				Ft	Ft	Ft		
BbhA:								
Bartle	C	Low						
			January	0.5-2.0	2.0-3.5	---	---	None
			February	0.5-2.0	2.0-3.5	---	---	None
			March	0.5-2.0	2.0-3.5	---	---	None
			April	0.5-2.0	2.0-3.5	---	---	None
			May	1.0-3.5	5.0-6.7	---	---	None
			June	2.0-3.5	5.0-6.7	---	---	None
			July	3.5-6.0	>6.0	---	---	None
			August	3.5-6.0	>6.0	---	---	None
			November	1.0-3.0	2.5-3.5	---	---	None
			December	0.5-2.0	2.0-3.5	---	---	None
BgeAH:								
Birds	B	Negligible						
			January	0.0-1.0	>6.0	0.0-0.5	Very brief	Frequent
			February	0.0-1.0	>6.0	0.0-0.5	Very brief	Frequent
			March	0.0-1.0	>6.0	0.0-0.5	Very brief	Frequent
			April	0.0-1.0	>6.0	0.0-0.5	Very brief	Frequent
			May	1.5-3.5	>6.0	0.0-0.5	Very brief	Frequent
			June	2.0-4.0	>6.0	0.0-0.5	Very brief	Occasional
			July	3.0-5.0	>6.0	0.0-0.5	Very brief	Occasional
			August	3.5-6.0	>6.0	0.0-0.5	Very brief	Occasional
			September	5.0-6.0	>6.0	0.0-0.5	Very brief	Rare
			October	5.0-6.0	>6.0	0.0-0.5	Very brief	Rare
			November	0.5-1.5	>6.0	0.0-0.5	Very brief	Occasional
			December	0.0-1.0	>6.0	0.0-0.5	Very brief	Frequent
BgeAHU:								
Birds, undrained	D	Negligible						
			January	0.0	>6.0	0.0-1.0	Very long	Frequent
			February	0.0	>6.0	0.0-1.0	Very long	Frequent
			March	0.0	>6.0	0.0-1.0	Very long	Frequent
			April	0.0	>6.0	0.0-1.0	Very long	Frequent
			May	0.0	>6.0	0.0-1.0	Long	Frequent
			June	0.0	>6.0	0.0-1.0	Long	Frequent
			July	0.0	>6.0	0.0-1.0	Long	Frequent
			August	0.0-1.0	>6.0	0.0-1.0	Brief	Occasional
			September	0.0-3.0	>6.0	0.0-1.0	Brief	Rare
			October	0.0-3.5	>6.0	0.0-1.0	Brief	Rare
			November	0.0	>6.0	0.0-1.0	Long	Occasional
			December	0.0	>6.0	0.0-1.0	Very long	Frequent

Table 20.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Surface water depth	Ponding: Duration	Ponding: Frequency
				Ft	Ft	Ft		
BkeB:								
Bloomfield	A	Negligible						
			Jan-Dec	---	---	---	---	None
Alvin	A	Very low						
			Jan-Dec	---	---	---	---	None
BlbB2:								
Blocher	C	Medium						
			January	2.0-3.0	2.5-3.5	---	---	None
			February	2.0-3.0	2.5-3.5	---	---	None
			March	2.0-3.0	2.5-3.5	---	---	None
			April	2.0-3.0	2.5-3.5	---	---	None
			December	2.0-3.0	2.5-3.5	---	---	None
Jennings	C	Medium						
			January	2.0-3.0	2.5-3.5	---	---	None
			February	2.0-3.0	2.5-3.5	---	---	None
			March	2.0-3.0	2.5-3.5	---	---	None
			April	2.0-3.0	2.5-3.5	---	---	None
			May	2.5-3.0	3.0-3.5	---	---	None
			November	2.5-3.0	3.0-3.5	---	---	None
			December	2.0-3.0	2.5-3.5	---	---	None
BlcC2:								
Blocher	C	High						
			January	2.0-3.0	2.5-3.5	---	---	None
			February	2.0-3.0	2.5-3.5	---	---	None
			March	2.0-3.0	2.5-3.5	---	---	None
			April	2.0-3.0	2.5-3.5	---	---	None
			December	2.0-3.0	2.5-3.5	---	---	None
Jennings	C	High						
			January	2.0-3.0	2.5-3.5	---	---	None
			February	2.0-3.0	2.5-3.5	---	---	None
			March	2.0-3.0	2.5-3.5	---	---	None
			April	2.0-3.0	2.5-3.5	---	---	None
			May	2.5-3.0	3.0-3.5	---	---	None
			November	2.5-3.0	3.0-3.5	---	---	None
			December	2.0-3.0	2.5-3.5	---	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency
				Ft	Ft	Ft		
BlcC2:								
Deputy---------------------	C	High						
			January	1.5-2.5	2.0-3.5	---	---	None
			February	1.5-2.5	2.0-3.5	---	---	None
			March	1.5-2.5	2.0-3.5	---	---	None
			April	1.5-2.5	2.0-3.5	---	---	None
			May	2.0-3.5	3.5-5.0	---	---	None
			June	2.5-3.5	3.5-5.0	---	---	None
			November	2.0-3.0	3.0-3.5	---	---	None
			December	1.5-2.5	2.0-3.5	---	---	None
BlcC3:								
Blocher, severely eroded--	D	Very high						
			January	2.0-3.0	2.5-3.5	---	---	None
			February	2.0-3.0	2.5-3.5	---	---	None
			March	2.0-3.0	2.5-3.5	---	---	None
			April	2.0-3.0	2.5-3.5	---	---	None
			December	2.0-3.0	2.5-3.5	---	---	None
Jennings, severely eroded	D	Very high						
			January	1.5-2.5	2.0-3.0	---	---	None
			February	1.5-2.5	2.0-3.0	---	---	None
			March	1.5-2.5	2.0-3.0	---	---	None
			April	1.5-2.5	2.0-3.0	---	---	None
			May	2.0-2.5	2.5-3.0	---	---	None
			November	2.0-2.5	2.5-3.0	---	---	None
			December	1.5-2.5	2.0-3.0	---	---	None
Deputy, severely eroded---	C	High						
			January	1.5-2.5	2.0-3.5	---	---	None
			February	1.5-2.5	2.0-3.5	---	---	None
			March	1.5-2.5	2.0-3.5	---	---	None
			April	1.5-2.5	2.0-3.5	---	---	None
			May	2.0-3.5	3.5-5.0	---	---	None
			June	2.5-3.5	3.5-5.0	---	---	None
			November	2.0-3.0	3.0-3.5	---	---	None
			December	1.5-2.5	2.0-3.5	---	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency
				Ft	Ft	Ft		
BlgC2:								
Blocher	C	High						
			January	2.0-3.0	2.5-3.5	---	---	None
			February	2.0-3.0	2.5-3.5	---	---	None
			March	2.0-3.0	2.5-3.5	---	---	None
			April	2.0-3.0	2.5-3.5	---	---	None
			December	2.0-3.0	2.5-3.5	---	---	None
Cincinnati	C	High						
			January	1.7-3.0	2.5-3.5	---	---	None
			February	1.7-3.0	2.5-3.5	---	---	None
			March	1.7-3.0	2.5-3.5	---	---	None
			April	1.7-3.0	2.5-3.5	---	---	None
			May	2.5-3.0	3.0-4.0	---	---	None
			November	2.5-3.0	3.0-3.5	---	---	None
			December	1.7-3.0	2.5-3.5	---	---	None
BlgC3:								
Blocher, severely eroded	D	Very high						
			January	2.0-3.0	2.5-3.5	---	---	None
			February	2.0-3.0	2.5-3.5	---	---	None
			March	2.0-3.0	2.5-3.5	---	---	None
			April	2.0-3.0	2.5-3.5	---	---	None
			December	2.0-3.0	2.5-3.5	---	---	None
Cincinnati, severely eroded	D	Very high						
			January	1.0-1.7	2.0-2.5	---	---	None
			February	1.0-1.7	2.0-2.5	---	---	None
			March	1.0-1.7	2.0-2.5	---	---	None
			April	1.0-1.7	2.0-2.5	---	---	None
			May	2.0-2.5	2.5-3.5	---	---	None
			November	1.5-2.0	2.5-3.0	---	---	None
			December	1.0-1.7	2.0-2.5	---	---	None
BlkE2:								
Bonnell	C	High						
			Jan-Dec	---	---	---	---	None
Blocher	C	High						
			January	2.0-3.0	2.5-3.5	---	---	None
			February	2.0-3.0	2.5-3.5	---	---	None
			March	2.0-3.0	2.5-3.5	---	---	None
			April	2.0-3.0	2.5-3.5	---	---	None
			December	2.0-3.0	2.5-3.5	---	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency
				Ft	Ft	Ft		
BlkE2:								
Hickory-------------------	B	High						
			Jan-Dec	---	---	---	---	None
BnjA:								
Bobtown-------------------	B	Very low						
			January	1.5-2.0	>6.0	---	---	None
			February	1.5-2.0	>6.0	---	---	None
			March	1.5-2.0	>6.0	---	---	None
			April	1.5-2.0	>6.0	---	---	None
			May	2.0-3.0	>6.0	---	---	None
			June	2.0-3.0	>6.0	---	---	None
			July	3.0-4.0	>6.0	---	---	None
			August	3.0-4.0	>6.0	---	---	None
			November	2.0-3.0	>6.0	---	---	None
			December	1.5-2.0	>6.0	---	---	None
BnuD3:								
Bonnell, severely eroded--	C	High						
			Jan-Dec	---	---	---	---	None
Hickory, severely eroded--	B	High						
			Jan-Dec	---	---	---	---	None
Blocher, severely eroded--	D	Very high						
			January	2.0-3.0	2.5-3.5	---	---	None
			February	2.0-3.0	2.5-3.5	---	---	None
			March	2.0-3.0	2.5-3.5	---	---	None
			April	2.0-3.0	2.5-3.5	---	---	None
			December	2.0-3.0	2.5-3.5	---	---	None
BnxE2:								
Bonnell-------------------	C	High						
			Jan-Dec	---	---	---	---	None
Grayford------------------	B	Medium						
			Jan-Dec	---	---	---	---	None
BnxE3:								
Bonnell, severely eroded--	C	High						
			Jan-Dec	---	---	---	---	None
Grayford, severely eroded	B	Medium						
			Jan-Dec	---	---	---	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency
				Ft	Ft	Ft		
BobE4:								
Bonnell, very severely eroded	C	Very high						
			Jan-Dec	---	---	---	---	None
Hickory, very severely eroded	B	High						
			Jan-Dec	---	---	---	---	None
BodAQ:								
Bonnie	C	Negligible						
			January	0.0-1.0	>6.0	0.0-0.5	Very brief	Frequent
			February	0.0-1.0	>6.0	0.0-0.5	Very brief	Frequent
			March	0.0-1.0	>6.0	0.0-0.5	Very brief	Frequent
			April	0.0-1.0	>6.0	0.0-0.5	Very brief	Frequent
			May	1.5-3.5	>6.0	0.0-0.5	Very brief	Frequent
			June	2.0-4.0	>6.0	0.0-0.5	Very brief	Occasional
			July	3.0-5.0	>6.0	0.0-0.5	Very brief	Occasional
			August	3.5-6.0	>6.0	0.0-0.5	Very brief	Occasional
			September	5.0-6.0	>6.0	0.0-0.5	Very brief	Rare
			October	5.0-6.0	>6.0	0.0-0.5	Very brief	Rare
			November	0.5-1.5	>6.0	0.0-0.5	Very brief	Occasional
			December	0.0-1.0	>6.0	0.0-0.5	Very brief	Frequent
CcaG:								
Caneyville	C	Very high						
			Jan-Dec	---	---	---	---	None
Rock outcrop.								
CcbC2:								
Caneyville	C	High						
			Jan-Dec	---	---	---	---	None
Zenas	B	Low						
			Jan-Dec	---	---	---	---	None
CcgD2:								
Caneyville	C	Very high						
			Jan-Dec	---	---	---	---	None
Grayford	B	Medium						
			Jan-Dec	---	---	---	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency
				Ft	Ft	Ft		
CcgD3:								
Caneyville, severely eroded	C	High						
			Jan-Dec	---	---	---	---	None
Grayford, severely eroded	B	Medium						
			Jan-Dec	---	---	---	---	None
CldB2:								
Cincinnati	C	Medium						
			January	1.7-3.0	2.5-3.5	---	---	None
			February	1.7-3.0	2.5-3.5	---	---	None
			March	1.7-3.0	2.5-3.5	---	---	None
			April	1.7-3.0	2.5-3.5	---	---	None
			May	2.5-3.0	3.0-4.0	---	---	None
			November	2.5-3.0	3.0-3.5	---	---	None
			December	1.7-3.0	2.5-3.5	---	---	None
Blocher	C	Medium						
			January	2.0-3.0	2.5-3.5	---	---	None
			February	2.0-3.0	2.5-3.5	---	---	None
			March	2.0-3.0	2.5-3.5	---	---	None
			April	2.0-3.0	2.5-3.5	---	---	None
			December	2.0-3.0	2.5-3.5	---	---	None
ClfA:								
Cobbsfork	C	Low						
			January	0.0-1.0	3.5-5.0	0.0-0.5	Very brief	Frequent
			February	0.0-1.0	3.5-5.0	0.0-0.5	Very brief	Frequent
			March	0.0-1.0	3.5-5.0	0.0-0.5	Very brief	Frequent
			April	0.0-1.0	3.5-5.0	0.0-0.5	Very brief	Frequent
			May	0.0-1.5	5.0-6.7	0.0-0.5	Very brief	Frequent
			June	1.0-3.5	5.0-6.7	0.0-0.5	Very brief	Occasional
			July	3.5-6.0	>6.0	0.0-0.5	Very brief	Occasional
			August	3.5-6.0	>6.0	0.0-0.5	Very brief	Occasional
			September	---	---	0.0-0.5	Very brief	Rare
			October	---	---	0.0-0.5	Very brief	Rare
			November	0.0-1.5	3.5-5.0	0.0-0.5	Very brief	Occasional
			December	0.0-1.0	3.5-5.0	0.0-0.5	Very brief	Frequent

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency
				Ft	Ft	Ft		
CwaAQ:								
Cuba	B	Very low						
			January	---	---	---	---	None
			February	---	---	---	---	None
			March	---	---	---	---	None
			April	---	---	---	---	None
			May	---	---	---	---	None
			June	---	---	---	---	None
			July	---	---	---	---	None
			August	---	---	---	---	None
			September	---	---	---	---	None
			October	---	---	---	---	None
			November	---	---	---	---	None
			December	---	---	---	---	None
CxdA:								
Cyclone	B	Negligible						
			January	0.0-0.5	>6.0	0.0-0.5	Long	Frequent
			February	0.0-0.5	>6.0	0.0-0.5	Long	Frequent
			March	0.0-0.5	>6.0	0.0-0.5	Long	Frequent
			April	0.5-1.0	>6.0	0.0-0.5	Brief	Occasional
			May	2.0-3.0	>6.0	0.0-0.5	Brief	Occasional
			June	4.0-5.0	>6.0	0.0-0.5	Brief	Occasional
			July	---	---	0.0-0.5	Brief	Occasional
			August	---	---	0.0-0.5	Brief	Occasional
			September	---	---	0.0-0.5	Brief	Occasional
			October	4.0-5.0	>6.0	0.0-0.5	Brief	Occasional
			November	2.0-3.0	>6.0	0.0-0.5	Brief	Occasional
			December	0.0-0.5	>6.0	0.0-0.5	Long	Frequent
DfnA:								
Dubois	C	Medium						
			January	0.5-2.0	2.0-3.5	---	---	None
			February	0.5-2.0	2.0-3.5	---	---	None
			March	0.5-2.0	2.0-3.5	---	---	None
			April	0.5-2.0	2.0-3.5	---	---	None
			May	1.0-3.5	5.0-6.7	---	---	None
			June	2.0-3.5	5.0-6.7	---	---	None
			July	3.5-6.0	>6.0	---	---	None
			August	3.5-6.0	>6.0	---	---	None
			November	1.0-3.0	2.5-3.5	---	---	None
			December	0.5-2.0	2.0-3.5	---	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency
				Ft	Ft	Ft		
DfnB2:								
Dubois--------------------	C	Medium						
			January	0.5-2.0	2.0-3.5	---	---	None
			February	0.5-2.0	2.0-3.5	---	---	None
			March	0.5-2.0	2.0-3.5	---	---	None
			April	0.5-2.0	2.0-3.5	---	---	None
			May	1.0-3.5	5.0-6.7	---	---	None
			June	2.0-3.5	5.0-6.7	---	---	None
			July	3.5-6.0	>6.0	---	---	None
			August	3.5-6.0	>6.0	---	---	None
			November	1.0-3.0	2.5-3.5	---	---	None
			December	0.5-2.0	2.0-3.5	---	---	None
DtwC2:								
Deputy--------------------	C	High						
			January	1.5-2.5	2.0-3.5	---	---	None
			February	1.5-2.5	2.0-3.5	---	---	None
			March	1.5-2.5	2.0-3.5	---	---	None
			April	1.5-2.5	2.0-3.5	---	---	None
			May	2.0-3.5	3.5-5.0	---	---	None
			June	2.5-3.5	3.5-5.0	---	---	None
			November	2.0-3.0	3.0-3.5	---	---	None
			December	1.5-2.5	2.0-3.5	---	---	None
DtzC3:								
Deputy, severely eroded---	C	High						
			January	1.5-2.5	2.0-3.5	---	---	None
			February	1.5-2.5	2.0-3.5	---	---	None
			March	1.5-2.5	2.0-3.5	---	---	None
			April	1.5-2.5	2.0-3.5	---	---	None
			May	2.0-3.5	3.5-5.0	---	---	None
			June	2.5-3.5	3.5-5.0	---	---	None
			November	2.0-3.0	3.0-3.5	---	---	None
			December	1.5-2.5	2.0-3.5	---	---	None
Trappist, severely eroded	C	High						
			Jan-Dec	---	---	---	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table Upper limit	Water table Lower limit	Surface water depth	Ponding Duration	Ponding Frequency
				Ft	Ft	Ft		
EepAQ:								
Elkinsville	B	Low						
			January	---	---	---	---	None
			February	---	---	---	---	None
			March	---	---	---	---	None
			April	---	---	---	---	None
			May	---	---	---	---	None
			June	---	---	---	---	None
			July	---	---	---	---	None
			August	---	---	---	---	None
			September	---	---	---	---	None
			October	---	---	---	---	None
			November	---	---	---	---	None
			December	---	---	---	---	None
EesB2:								
Elkinsville	B	Low						
			Jan-Dec	---	---	---	---	None
Millstone	B	Low						
			Jan-Dec	---	---	---	---	None
FdbA:								
Fincastle	B	Low						
			January	0.5-2.0	3.3-5.0	---	---	None
			February	0.5-2.0	3.3-5.0	---	---	None
			March	0.5-2.0	3.3-5.0	---	---	None
			April	0.5-3.0	3.3-5.0	---	---	None
			May	1.5-3.3	3.3-5.0	---	---	None
			June	1.5-3.3	3.3-5.0	---	---	None
			October	1.5-3.3	3.3-5.0	---	---	None
			November	1.5-3.3	3.3-5.0	---	---	None
			December	0.5-3.0	3.3-5.0	---	---	None
FdqB:								
Fincastle	B	Low						
			January	0.5-2.0	3.3-5.0	---	---	None
			February	0.5-2.0	3.3-5.0	---	---	None
			March	0.5-2.0	3.3-5.0	---	---	None
			April	0.5-3.0	3.3-5.0	---	---	None
			May	1.5-3.3	4.5-5.0	---	---	None
			June	1.5-3.3	4.5-5.0	---	---	None
			October	1.5-3.3	4.5-5.0	---	---	None
			November	1.5-3.3	4.5-5.0	---	---	None
			December	0.5-3.0	3.3-5.0	---	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table Upper limit	Water table Lower limit	Ponding Surface water depth	Ponding Duration	Ponding Frequency
				Ft	Ft	Ft		
FdqB:								
Xenia----------------------	B	Low						
			January	1.5-2.5	3.3-5.0	---	---	None
			February	1.5-2.5	3.3-5.0	---	---	None
			March	1.5-2.5	3.3-5.0	---	---	None
			April	1.5-2.5	3.3-5.0	---	---	None
			May	2.0-3.5	3.3-5.0	---	---	None
			June	2.0-3.3	3.3-5.0	---	---	None
			October	2.0-3.3	3.3-5.0	---	---	None
			November	2.0-3.3	3.3-5.0	---	---	None
			December	1.5-2.5	3.3-5.0	---	---	None
GmsF:								
Greybrook-----------------	C	Very high						
			Jan-Dec	---	---	---	---	None
HccB2:								
Haubstadt-----------------	C	Medium						
			January	1.5-2.0	2.0-3.0	---	---	None
			February	1.5-2.0	2.0-3.0	---	---	None
			March	1.5-2.0	2.0-3.0	---	---	None
			April	1.5-2.0	2.0-3.0	---	---	None
			May	2.0-3.5	5.0-6.7	---	---	None
			June	3.0-4.0	5.0-6.7	---	---	None
			July	4.0-6.0	>6.0	---	---	None
			November	2.0-2.5	2.5-3.0	---	---	None
			December	1.5-2.0	2.0-3.0	---	---	None
HcgAH:								
Haymond-------------------	B	Very low						
			January	---	---	---	---	None
			February	---	---	---	---	None
			March	---	---	---	---	None
			April	---	---	---	---	None
			May	---	---	---	---	None
			June	---	---	---	---	None
			July	---	---	---	---	None
			August	---	---	---	---	None
			September	---	---	---	---	None
			October	---	---	---	---	None
			November	---	---	---	---	None
			December	---	---	---	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency
				Ft	Ft	Ft		
HcgAW:								
Haymond	B	Very low						
			January	---	---	---	---	None
			February	---	---	---	---	None
			March	---	---	---	---	None
			April	---	---	---	---	None
			May	---	---	---	---	None
			June	---	---	---	---	None
			July	---	---	---	---	None
			August	---	---	---	---	None
			September	---	---	---	---	None
			October	---	---	---	---	None
			November	---	---	---	---	None
			December	---	---	---	---	None
HcpAP:								
Haymond, frequently ponded, depression	B	Negligible						
			January	---	---	0.5-2.0	Very brief	Frequent
			February	---	---	0.5-2.0	Very brief	Frequent
			March	---	---	0.5-2.0	Very brief	Frequent
			April	---	---	0.5-2.0	Very brief	Frequent
			May	---	---	0.5-2.0	Very brief	Occasional
			June	---	---	0.5-2.0	Very brief	Occasional
			July	---	---	0.5-2.0	Very brief	Occasional
			August	---	---	0.5-2.0	Very brief	Rare
			September	---	---	0.5-2.0	Very brief	Rare
			October	---	---	0.5-2.0	Very brief	Rare
			November	---	---	0.5-2.0	Very brief	Rare
			December	---	---	0.5-2.0	Very brief	Occasional
HeeG:								
Hickory	B	High						
			Jan-Dec	---	---	---	---	None
HizE2:								
Hickory	B	High						
			Jan-Dec	---	---	---	---	None
Grayford	B	Medium						
			Jan-Dec	---	---	---	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table Upper limit	Water table Lower limit	Ponding Surface water depth	Ponding Duration	Ponding Frequency
				Ft	Ft	Ft		
HizE3:								
Hickory, severely eroded--	B	High						
			Jan-Dec	---	---	---	---	None
Grayford, severely eroded	B	Medium						
			Jan-Dec	---	---	---	---	None
HleAW:								
Holton--------------------	B	Negligible						
			January	0.5-2.0	>6.0	---	---	None
			February	0.5-2.0	>6.0	---	---	None
			March	0.5-2.0	>6.0	---	---	None
			April	0.5-2.0	>6.0	---	---	None
			May	2.0-4.0	>6.0	---	---	None
			June	2.5-5.0	>6.0	---	---	None
			July	3.0-6.0	>6.0	---	---	None
			August	3.0-6.0	>6.0	---	---	None
			September	4.0-6.0	>6.0	---	---	None
			October	4.0-6.0	>6.0	---	---	None
			November	1.5-4.0	>6.0	---	---	None
			December	0.5-2.0	>6.0	---	---	None
MhyB2:								
Medora--------------------	D	Medium						
			January	1.7-3.0	1.7-3.5	---	---	None
			February	1.7-3.0	1.7-3.5	---	---	None
			March	1.7-3.0	1.7-3.5	---	---	None
			April	1.7-3.0	2.0-3.5	---	---	None
			May	2.5-3.0	3.0-4.0	---	---	None
			November	2.5-3.0	3.0-3.5	---	---	None
			December	1.7-3.0	2.0-3.5	---	---	None
MhyC3:								
Medora, severely eroded---	D	Very high						
			January	1.0-1.5	1.0-1.7	---	---	None
			February	1.0-1.5	1.0-1.7	---	---	None
			March	1.0-1.5	1.0-1.7	---	---	None
			April	1.0-1.5	1.0-1.7	---	---	None
			May	1.5-2.5	2.0-3.0	---	---	None
			November	1.5-2.5	2.0-3.0	---	---	None
			December	1.0-1.5	1.0-1.7	---	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency
				Ft	Ft	Ft		
MmoC3:								
Miami, severely eroded----	C	Very high						
			January	2.0-3.0	2.5-3.3	---	---	None
			February	2.0-3.0	2.5-3.3	---	---	None
			March	2.0-3.0	2.5-3.3	---	---	None
			April	2.0-3.0	2.5-3.3	---	---	None
			May	2.5-3.0	2.5-3.3	---	---	None
			June	2.5-3.0	2.5-3.3	---	---	None
			October	2.5-3.0	2.5-3.3	---	---	None
			November	2.5-3.0	2.5-3.3	---	---	None
			December	2.0-3.0	2.5-3.3	---	---	None
MmoD3:								
Miami, severely eroded----	C	Very high						
			January	2.0-3.0	2.5-3.3	---	---	None
			February	2.0-3.0	2.5-3.3	---	---	None
			March	2.0-3.0	2.5-3.3	---	---	None
			April	2.0-3.0	2.5-3.3	---	---	None
			May	2.5-3.0	2.5-3.3	---	---	None
			June	2.5-3.0	2.5-3.3	---	---	None
			October	2.5-3.0	2.5-3.3	---	---	None
			November	2.5-3.0	2.5-3.3	---	---	None
			December	2.0-3.0	2.5-3.3	---	---	None
MnpC2:								
Miami---------------------	C	Very high						
			January	2.0-3.0	2.5-3.3	---	---	None
			February	2.0-3.0	2.5-3.3	---	---	None
			March	2.0-3.0	2.5-3.3	---	---	None
			April	2.0-3.0	2.5-3.3	---	---	None
			May	2.5-3.0	2.5-3.3	---	---	None
			June	2.5-3.0	2.5-3.3	---	---	None
			October	2.5-3.0	2.5-3.3	---	---	None
			November	2.5-3.0	2.5-3.3	---	---	None
			December	2.0-3.0	2.5-3.3	---	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency
				Ft	Ft	Ft		
MnpD2:								
Miami	C	Very high						
			January	2.0-3.0	2.5-3.3	---	---	None
			February	2.0-3.0	2.5-3.3	---	---	None
			March	2.0-3.0	2.5-3.3	---	---	None
			April	2.0-3.0	2.5-3.3	---	---	None
			May	2.5-3.0	2.5-3.3	---	---	None
			June	2.5-3.0	2.5-3.3	---	---	None
			October	2.5-3.0	2.5-3.3	---	---	None
			November	2.5-3.0	2.5-3.3	---	---	None
			December	2.0-3.0	2.5-3.3	---	---	None
NaaA:								
Nabb	C	Medium						
			January	1.5-2.0	2.0-3.3	---	---	None
			February	1.5-2.0	2.0-3.3	---	---	None
			March	1.5-2.0	2.0-3.3	---	---	None
			April	1.5-2.0	2.0-3.3	---	---	None
			May	2.0-3.5	5.0-6.7	---	---	None
			June	3.0-4.0	5.0-6.7	---	---	None
			July	4.0-6.0	>6.0	---	---	None
			November	2.0-2.5	2.5-3.3	---	---	None
			December	1.5-2.0	2.0-3.3	---	---	None
NaaB2:								
Nabb	C	Medium						
			January	1.5-2.0	2.0-3.3	---	---	None
			February	1.5-2.0	2.0-3.3	---	---	None
			March	1.5-2.0	2.0-3.3	---	---	None
			April	1.5-2.0	2.0-3.3	---	---	None
			May	2.0-3.5	5.0-6.7	---	---	None
			June	3.0-4.0	5.0-6.7	---	---	None
			July	4.0-6.0	>6.0	---	---	None
			November	2.0-2.5	2.5-3.3	---	---	None
			December	1.5-2.0	2.0-3.3	---	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding		
				Upper limit	Lower limit	Surface water depth	Duration	Frequency
				Ft	Ft	Ft		
OfaAW:								
Oldenburg------------------	B	Negligible						
			January	1.5-2.5	>6.0	---	---	None
			February	1.5-2.5	>6.0	---	---	None
			March	1.5-2.5	>6.0	---	---	None
			April	1.5-2.5	>6.0	---	---	None
			May	2.5-4.5	>6.0	---	---	None
			June	3.0-5.0	>6.0	---	---	None
			July	3.5-6.0	>6.0	---	---	None
			August	3.5-6.0	>6.0	---	---	None
			September	---	---	---	---	None
			October	---	---	---	---	None
			November	2.5-4.5	>6.0	---	---	None
			December	1.5-2.5	>6.0	---	---	None
OmkC2:								
Otwell--------------------	C	High						
			January	2.0-3.0	2.5-3.5	---	---	None
			February	2.0-3.0	2.5-3.5	---	---	None
			March	2.0-3.0	2.5-3.5	---	---	None
			April	2.0-3.0	2.5-3.5	---	---	None
			May	2.5-3.0	3.0-4.0	---	---	None
			November	2.5-3.0	3.0-4.0	---	---	None
			December	2.0-3.0	2.5-3.5	---	---	None
OmkC3:								
Otwell, severely eroded---	D	Very high						
			January	1.5-2.0	2.0-2.5	---	---	None
			February	1.5-2.0	2.0-2.5	---	---	None
			March	1.5-2.0	2.0-2.5	---	---	None
			April	1.5-2.0	2.0-2.5	---	---	None
			May	2.0-2.5	2.5-3.5	---	---	None
			November	2.0-2.5	2.5-3.5	---	---	None
			December	1.5-2.0	2.0-2.5	---	---	None
Omz.								
Orthents								

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency
				Ft	Ft	Ft		
PcrA:								
Pekin----------------------	B	Medium						
			January	1.5-2.0	2.0-3.0	---	---	None
			February	1.5-2.0	2.0-3.0	---	---	None
			March	1.5-2.0	2.0-3.0	---	---	None
			April	1.5-2.0	2.0-3.0	---	---	None
			May	2.0-3.5	5.0-6.7	---	---	None
			June	3.0-4.0	5.0-6.7	---	---	None
			July	4.0-6.0	>6.0	---	---	None
			November	2.0-2.5	2.5-3.0	---	---	None
			December	1.5-2.0	2.0-3.0	---	---	None
PcrB2:								
Pekin----------------------	C	Medium						
			January	1.5-2.0	2.0-3.0	---	---	None
			February	1.5-2.0	2.0-3.0	---	---	None
			March	1.5-2.0	2.0-3.0	---	---	None
			April	1.5-2.0	2.0-3.0	---	---	None
			May	2.0-3.5	5.0-6.7	---	---	None
			June	3.0-4.0	5.0-6.7	---	---	None
			July	4.0-6.0	>6.0	---	---	None
			November	2.0-2.5	2.5-3.0	---	---	None
			December	1.5-2.0	2.0-3.0	---	---	None
PcrC2:								
Pekin, eroded--------------	C	High						
			January	1.5-2.0	2.0-3.0	---	---	None
			February	1.5-2.0	2.0-3.0	---	---	None
			March	1.5-2.0	2.0-3.0	---	---	None
			April	1.5-2.0	2.0-3.0	---	---	None
			May	2.0-3.5	5.0-6.7	---	---	None
			June	3.0-4.0	5.0-6.7	---	---	None
			July	4.0-6.0	>6.0	---	---	None
			November	2.0-2.5	2.5-3.0	---	---	None
			December	1.5-2.0	2.0-3.0	---	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency
				Ft	Ft	Ft		
PhaA:								
Peoga	C	Low						
			January	0.0-1.0	3.5-5.0	0.0-0.5	Very brief	Frequent
			February	0.0-1.0	3.5-5.0	0.0-0.5	Very brief	Frequent
			March	0.0-1.0	3.5-5.0	0.0-0.5	Very brief	Frequent
			April	0.0-1.0	3.5-5.0	0.0-0.5	Very brief	Frequent
			May	0.0-1.5	5.0-6.7	0.0-0.5	Very brief	Frequent
			June	1.0-3.5	5.0-6.7	0.0-0.5	Very brief	Occasional
			July	3.5-6.0	>6.0	0.0-0.5	Very brief	Occasional
			August	3.5-6.0	>6.0	0.0-0.5	Very brief	Occasional
			September	---	---	0.0-0.5	Very brief	Rare
			October	---	---	0.0-0.5	Very brief	Rare
			November	0.0-1.5	3.5-5.0	0.0-0.5	Very brief	Occasional
			December	0.0-1.0	3.5-5.0	0.0-0.5	Very brief	Frequent
PlpAH:								
Piopolis	C	Negligible						
			January	0.0-1.0	>6.0	0.0-1.0	Brief	Frequent
			February	0.0-1.0	>6.0	0.0-1.0	Brief	Frequent
			March	0.0-1.0	>6.0	0.0-1.0	Brief	Frequent
			April	0.0-1.0	>6.0	0.0-1.0	Brief	Frequent
			May	1.5-3.5	>6.0	0.0-1.0	Brief	Frequent
			June	2.0-4.0	>6.0	0.0-1.0	Brief	Occasional
			July	3.0-5.0	>6.0	0.0-1.0	Brief	Occasional
			August	3.5-6.0	>6.0	0.0-1.0	Brief	Occasional
			September	5.0-6.0	>6.0	0.0-1.0	Brief	Rare
			October	5.0-6.0	>6.0	0.0-1.0	Brief	Rare
			November	0.5-1.5	>6.0	0.0-1.0	Brief	Occasional
			December	0.0-1.0	>6.0	0.0-1.0	Brief	Frequent
PlpAHU:								
Piopolis, undrained	C	Negligible						
			January	0.0	>6.0	0.0-1.0	Long	Frequent
			February	0.0	>6.0	0.0-1.0	Long	Frequent
			March	0.0	>6.0	0.0-1.0	Long	Frequent
			April	0.0	>6.0	0.0-1.0	Long	Frequent
			May	0.0	>6.0	0.0-1.0	Long	Frequent
			June	0.0	>6.0	0.0-1.0	Long	Frequent
			July	0.0	>6.0	0.0-1.0	Brief	Frequent
			August	0.0-1.0	>6.0	0.0-1.0	Brief	Occasional
			September	0.0-3.0	>6.0	0.0-1.0	Brief	Rare
			October	0.0-3.5	>6.0	0.0-1.0	Brief	Rare
			November	0.0	>6.0	0.0-1.0	Brief	Occasional
			December	0.0	>6.0	0.0-1.0	Long	Frequent

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency
				Ft	Ft	Ft		
Pml.								
Pits, quarry								
RptG:								
Rohan	D	Very high						
			Jan-Dec	---	---	---	---	None
Jessietown	C	High						
			Jan-Dec	---	---	---	---	None
RywB2:								
Russell	B	Low						
			January	3.3-6.0	4.8-6.0	---	---	None
			February	3.3-6.0	4.8-6.0	---	---	None
			March	3.3-6.0	4.8-6.0	---	---	None
			April	3.3-6.0	4.8-6.0	---	---	None
			November	4.0-6.0	4.8-6.0	---	---	None
			December	3.5-6.0	4.8-6.0	---	---	None
RzfA:								
Ryker, terrace	B	Low						
			Jan-Dec	---	---	---	---	None
Muscatatuck, terrace	C	Medium						
			January	1.7-3.0	2.5-3.5	---	---	None
			February	1.7-3.0	2.5-3.5	---	---	None
			March	1.7-3.0	2.5-3.5	---	---	None
			April	1.7-3.0	2.5-3.5	---	---	None
			May	2.5-3.0	3.0-4.0	---	---	None
			November	2.5-3.0	3.0-3.5	---	---	None
			December	1.7-3.0	2.5-3.5	---	---	None
RzfB2:								
Ryker, terrace	B	Low						
			Jan-Dec	---	---	---	---	None
Muscatatuck, terrace	C	Medium						
			January	1.7-3.0	2.5-3.5	---	---	None
			February	1.7-3.0	2.5-3.5	---	---	None
			March	1.7-3.0	2.5-3.5	---	---	None
			April	1.7-3.0	2.5-3.5	---	---	None
			May	2.5-3.0	3.0-4.0	---	---	None
			November	2.5-3.0	3.0-3.5	---	---	None
			December	1.7-3.0	2.5-3.5	---	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency
				Ft	Ft	Ft		
RzgA:								
Ryker	B	Low						
			Jan-Dec	---	---	---	---	None
Muscatatuck	C	Medium						
			January	1.7-3.0	2.5-3.5	---	---	None
			February	1.7-3.0	2.5-3.5	---	---	None
			March	1.7-3.0	2.5-3.5	---	---	None
			April	1.7-3.0	2.5-3.5	---	---	None
			May	2.5-3.0	3.0-4.0	---	---	None
			November	2.5-3.0	3.0-3.5	---	---	None
			December	1.7-3.0	2.5-3.5	---	---	None
RzgB2:								
Ryker	B	Low						
			Jan-Dec	---	---	---	---	None
Muscatatuck	C	Medium						
			January	1.7-3.0	2.5-3.5	---	---	None
			February	1.7-3.0	2.5-3.5	---	---	None
			March	1.7-3.0	2.5-3.5	---	---	None
			April	1.7-3.0	2.5-3.5	---	---	None
			May	2.5-3.0	3.0-4.0	---	---	None
			November	2.5-3.0	3.0-3.5	---	---	None
			December	1.7-3.0	2.5-3.5	---	---	None
RzgC2:								
Ryker	B	Medium						
			Jan-Dec	---	---	---	---	None
Muscatatuck	C	High						
			January	1.7-3.0	2.5-3.5	---	---	None
			February	1.7-3.0	2.5-3.5	---	---	None
			March	1.7-3.0	2.5-3.5	---	---	None
			April	1.7-3.0	2.5-3.5	---	---	None
			May	2.5-3.0	3.0-4.0	---	---	None
			November	2.5-3.0	3.0-3.5	---	---	None
			December	1.7-3.0	2.5-3.5	---	---	None
RzhC3:								
Ryker, severely eroded	B	Medium						
			Jan-Dec	---	---	---	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency
				Ft	Ft	Ft		
RzhC3:								
Grayford, severely eroded	B	Medium						
			Jan-Dec	---	---	---	---	None
Muscatatuck, severely eroded	C	High						
			January	1.7-3.0	2.5-3.5	---	---	None
			February	1.7-3.0	2.5-3.5	---	---	None
			March	1.7-3.0	2.5-3.5	---	---	None
			April	1.7-3.0	2.5-3.5	---	---	None
			May	2.5-3.0	3.0-4.0	---	---	None
			November	2.5-3.0	3.0-3.5	---	---	None
			December	1.7-3.0	2.5-3.5	---	---	None
SceA:								
Scottsburg	C	Medium						
			January	1.5-3.0	2.0-3.5	---	---	None
			February	1.5-3.0	2.0-3.5	---	---	None
			March	1.5-3.0	2.0-3.5	---	---	None
			April	1.5-3.0	2.0-3.5	---	---	None
			May	2.0-4.0	2.5-6.7	---	---	None
			June	2.0-4.0	2.5-6.7	---	---	None
			November	2.0-3.5	2.5-4.0	---	---	None
			December	1.5-3.0	2.0-3.5	---	---	None
ScfB2:								
Scottsburg	C	Medium						
			January	1.5-3.0	2.0-3.5	---	---	None
			February	1.5-3.0	2.0-3.5	---	---	None
			March	1.5-3.0	2.0-3.5	---	---	None
			April	1.5-3.0	2.0-3.5	---	---	None
			May	2.0-4.0	2.5-6.7	---	---	None
			June	2.0-4.0	2.5-6.7	---	---	None
			November	2.0-3.5	2.5-4.0	---	---	None
			December	1.5-3.0	2.0-3.5	---	---	None
Deputy	C	Medium						
			January	1.5-2.5	2.0-3.5	---	---	None
			February	1.5-2.5	2.0-3.5	---	---	None
			March	1.5-2.5	2.0-3.5	---	---	None
			April	1.5-2.5	2.0-3.5	---	---	None
			May	2.0-3.5	3.5-5.0	---	---	None
			June	2.5-3.5	3.5-5.0	---	---	None
			November	2.0-3.0	3.0-3.5	---	---	None
			December	1.5-2.5	2.0-3.5	---	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency
				Ft	Ft	Ft		
SifE:								
Senachwine----------------	C	High						
			Jan-Dec	---	---	---	---	None
SifG:								
Senachwine----------------	C	High						
			Jan-Dec	---	---	---	---	None
SldAW:								
Shoals--------------------	B	Negligible						
			January	0.5-2.0	>6.0	---	---	None
			February	0.5-2.0	>6.0	---	---	None
			March	0.5-2.0	>6.0	---	---	None
			April	0.5-3.0	>6.0	---	---	None
			May	1.5-3.5	>6.0	---	---	None
			June	1.5-3.5	>6.0	---	---	None
			July	---	---	---	---	None
			August	---	---	---	---	None
			September	---	---	---	---	None
			October	1.5-3.5	>6.0	---	---	None
			November	1.5-3.5	>6.0	---	---	None
			December	0.5-3.0	>6.0	---	---	None
StaAH:								
Steff---------------------	B	Negligible						
			January	1.5-2.5	>6.0	---	---	None
			February	1.5-2.5	>6.0	---	---	None
			March	1.5-2.5	>6.0	---	---	None
			April	1.5-2.5	>6.0	---	---	None
			May	2.5-4.5	>6.0	---	---	None
			June	3.0-5.0	>6.0	---	---	None
			July	3.5-6.0	>6.0	---	---	None
			August	3.5-6.0	>6.0	---	---	None
			September	---	---	---	---	None
			October	---	---	---	---	None
			November	2.5-4.5	>6.0	---	---	None
			December	1.5-2.5	>6.0	---	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency
				Ft	Ft	Ft		
StaAQ:								
Steff	B	Negligible						
			January	1.5-2.5	>6.0	---	---	None
			February	1.5-2.5	>6.0	---	---	None
			March	1.5-2.5	>6.0	---	---	None
			April	1.5-2.5	>6.0	---	---	None
			May	2.5-4.5	>6.0	---	---	None
			June	3.0-5.0	>6.0	---	---	None
			July	3.5-6.0	>6.0	---	---	None
			August	3.5-6.0	>6.0	---	---	None
			September	---	---	---	---	None
			October	---	---	---	---	None
			November	2.5-4.5	>6.0	---	---	None
			December	1.5-2.5	>6.0	---	---	None
StdAH:								
Stendal	B	Negligible						
			January	0.5-2.0	>6.0	---	---	None
			February	0.5-2.0	>6.0	---	---	None
			March	0.5-2.0	>6.0	---	---	None
			April	0.5-2.0	>6.0	---	---	None
			May	2.0-4.0	>6.0	---	---	None
			June	2.5-5.0	>6.0	---	---	None
			July	3.0-6.0	>6.0	---	---	None
			August	3.0-6.0	>6.0	---	---	None
			September	4.0-6.0	>6.0	---	---	None
			October	4.0-6.0	>6.0	---	---	None
			November	1.5-4.0	>6.0	---	---	None
			December	0.5-2.0	>6.0	---	---	None
StdAQ:								
Stendal	B	Negligible						
			January	0.5-2.0	>6.0	---	---	None
			February	0.5-2.0	>6.0	---	---	None
			March	0.5-2.0	>6.0	---	---	None
			April	0.5-2.0	>6.0	---	---	None
			May	2.0-4.0	>6.0	---	---	None
			June	2.5-5.0	>6.0	---	---	None
			July	3.0-6.0	>6.0	---	---	None
			August	3.0-6.0	>6.0	---	---	None
			September	4.0-6.0	>6.0	---	---	None
			October	4.0-6.0	>6.0	---	---	None
			November	1.5-4.0	>6.0	---	---	None
			December	0.5-2.0	>6.0	---	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency
				Ft	Ft	Ft		
SuoAH:								
Stonelick	A	Negligible						
			January	---	---	---	---	None
			February	---	---	---	---	None
			March	---	---	---	---	None
			April	---	---	---	---	None
			May	---	---	---	---	None
			June	---	---	---	---	None
			July	---	---	---	---	None
			August	---	---	---	---	None
			September	---	---	---	---	None
			October	---	---	---	---	None
			November	---	---	---	---	None
			December	---	---	---	---	None
ThbD4:								
Trappist, very severely eroded	C	High						
			Jan-Dec	---	---	---	---	None
ThcD3:								
Trappist, severely eroded	C	High						
			Jan-Dec	---	---	---	---	None
Rohan, severely eroded	D	Very high						
			Jan-Dec	---	---	---	---	None
ThdD2:								
Trappist	C	High						
			Jan-Dec	---	---	---	---	None
Rohan	D	Very high						
			Jan-Dec	---	---	---	---	None
Uby.								
Udorthents, loamy								
UdaB:								
Urban land	---	Very high						
			Jan-Dec	---	---	---	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency
				Ft	Ft	Ft		
UdaB:								
Deputy--------------------	C	High						
			January	1.5-2.5	2.0-3.5	---	---	None
			February	1.5-2.5	2.0-3.5	---	---	None
			March	1.5-2.5	2.0-3.5	---	---	None
			April	1.5-2.5	2.0-3.5	---	---	None
			May	2.0-3.5	3.5-5.0	---	---	None
			June	2.5-3.5	3.5-5.0	---	---	None
			November	2.0-3.0	3.0-3.5	---	---	None
			December	1.5-2.5	2.0-3.5	---	---	None
Scottsburg----------------	C	Medium						
			January	1.5-3.0	2.0-3.5	---	---	None
			February	1.5-3.0	2.0-3.5	---	---	None
			March	1.5-3.0	2.0-3.5	---	---	None
			April	1.5-3.0	2.0-3.5	---	---	None
			May	2.0-4.0	2.5-6.7	---	---	None
			June	2.0-4.0	2.5-6.7	---	---	None
			November	2.0-3.5	2.5-4.0	---	---	None
			December	1.5-3.0	2.0-3.5	---	---	None
UfcB:								
Urban land----------------	---	Very high						
			Jan-Dec	---	---	---	---	None
Cincinnati----------------	C	High						
			January	1.7-3.0	2.5-3.5	---	---	None
			February	1.7-3.0	2.5-3.5	---	---	None
			March	1.7-3.0	2.5-3.5	---	---	None
			April	1.7-3.0	2.5-3.5	---	---	None
			May	2.5-3.0	3.0-4.0	---	---	None
			November	2.5-3.0	3.0-3.5	---	---	None
			December	1.7-3.0	2.5-3.5	---	---	None
Nabb----------------------	C	Medium						
			January	1.5-2.0	2.0-3.3	---	---	None
			February	1.5-2.0	2.0-3.3	---	---	None
			March	1.5-2.0	2.0-3.3	---	---	None
			April	1.5-2.0	2.0-3.3	---	---	None
			May	2.0-3.5	5.0-6.7	---	---	None
			June	3.0-4.0	5.0-6.7	---	---	None
			July	4.0-6.0	>6.0	---	---	None
			November	2.0-2.5	2.5-3.3	---	---	None
			December	1.5-2.0	2.0-3.3	---	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency
				Ft	Ft	Ft		
UfdA:								
Urban land	---	Very high						
			Jan-Dec	---	---	---	---	None
Cobbsfork	C	Low						
			January	0.0-1.0	3.5-5.0	0.0-0.5	Very brief	Frequent
			February	0.0-1.0	3.5-5.0	0.0-0.5	Very brief	Frequent
			March	0.0-1.0	3.5-5.0	0.0-0.5	Very brief	Frequent
			April	0.0-1.0	3.5-5.0	0.0-0.5	Very brief	Frequent
			May	0.0-1.5	5.0-6.7	0.0-0.5	Very brief	Frequent
			June	1.0-3.5	5.0-6.7	0.0-0.5	Very brief	Occasional
			July	3.5-6.0	>6.0	0.0-0.5	Very brief	Occasional
			August	3.5-6.0	>6.0	0.0-0.5	Very brief	Occasional
			September	---	---	0.0-0.5	Very brief	Rare
			October	---	---	0.0-0.5	Very brief	Rare
			November	0.0-1.5	3.5-5.0	0.0-0.5	Very brief	Occasional
			December	0.0-1.0	3.5-5.0	0.0-0.5	Very brief	Frequent
Avonburg	C	Medium						
			January	0.5-2.0	3.3-5.0	---	---	None
			February	0.5-2.0	3.3-5.0	---	---	None
			March	0.5-2.0	3.3-5.0	---	---	None
			April	0.5-2.0	3.3-5.0	---	---	None
			May	1.0-3.5	5.0-6.7	---	---	None
			June	2.0-3.5	5.0-6.7	---	---	None
			July	3.5-6.0	>6.0	---	---	None
			August	3.5-6.0	>6.0	---	---	None
			November	1.0-3.0	3.3-5.0	---	---	None
			December	0.5-2.0	3.3-5.0	---	---	None
Usl.								
Udorthents, rubbish								
W.								
Water								

Table 20.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency
				Ft	Ft	Ft		
WaaAH:								
Wakeland------------------	B	Negligible						
			January	0.5-2.0	>6.0	---	---	None
			February	0.5-2.0	>6.0	---	---	None
			March	0.5-2.0	>6.0	---	---	None
			April	0.5-2.0	>6.0	---	---	None
			May	2.0-4.0	>6.0	---	---	None
			June	2.5-5.0	>6.0	---	---	None
			July	3.0-6.0	>6.0	---	---	None
			August	3.0-6.0	>6.0	---	---	None
			September	4.0-6.0	>6.0	---	---	None
			October	4.0-6.0	>6.0	---	---	None
			November	1.5-4.0	>6.0	---	---	None
			December	0.5-2.0	>6.0	---	---	None
WaaAW:								
Wakeland------------------	B	Negligible						
			January	0.5-2.0	>6.0	---	---	None
			February	0.5-2.0	>6.0	---	---	None
			March	0.5-2.0	>6.0	---	---	None
			April	0.5-2.0	>6.0	---	---	None
			May	2.0-4.0	>6.0	---	---	None
			June	2.5-5.0	>6.0	---	---	None
			July	3.0-6.0	>6.0	---	---	None
			August	3.0-6.0	>6.0	---	---	None
			September	4.0-6.0	>6.0	---	---	None
			October	4.0-6.0	>6.0	---	---	None
			November	1.5-4.0	>6.0	---	---	None
			December	0.5-2.0	>6.0	---	---	None
WnmA:								
Whitcomb------------------	C	Medium						
			January	0.5-2.0	2.0-3.5	---	---	None
			February	0.5-2.0	2.0-3.5	---	---	None
			March	0.5-2.0	2.0-3.5	---	---	None
			April	0.5-2.0	2.0-3.5	---	---	None
			May	1.0-3.5	5.0-6.7	---	---	None
			June	2.0-3.5	5.0-6.7	---	---	None
			July	3.5-6.7	>6.0	---	---	None
			August	3.5-6.7	>6.0	---	---	None
			November	1.0-3.0	2.5-3.5	---	---	None
			December	0.5-2.0	2.0-3.5	---	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency
				Ft	Ft	Ft		
WokAH:								
Wilbur	B	Low						
			January	1.5-2.5	>6.0	---	---	None
			February	1.5-2.5	>6.0	---	---	None
			March	1.5-2.5	>6.0	---	---	None
			April	1.5-2.5	>6.0	---	---	None
			May	2.5-4.5	>6.0	---	---	None
			June	3.0-5.0	>6.0	---	---	None
			July	3.5-6.0	>6.0	---	---	None
			August	3.5-6.0	>6.0	---	---	None
			September	---	---	---	---	None
			October	---	---	---	---	None
			November	2.5-4.5	>6.0	---	---	None
			December	1.5-2.5	>6.0	---	---	None
WokAW:								
Wilbur	B	Negligible						
			January	1.5-2.5	>6.0	---	---	None
			February	1.5-2.5	>6.0	---	---	None
			March	1.5-2.5	>6.0	---	---	None
			April	1.5-2.5	>6.0	---	---	None
			May	2.5-4.5	>6.0	---	---	None
			June	3.0-5.0	>6.0	---	---	None
			July	3.5-6.0	>6.0	---	---	None
			August	3.5-6.0	>6.0	---	---	None
			September	---	---	---	---	None
			October	---	---	---	---	None
			November	2.5-4.5	>6.0	---	---	None
			December	1.5-2.5	>6.0	---	---	None
WooAQ:								
Wilhite	C	Negligible						
			January	0.0-1.0	>6.0	0.0-1.0	Very brief	Occasional
			February	0.0-1.0	>6.0	0.0-1.0	Very brief	Occasional
			March	0.0-1.0	>6.0	0.0-1.0	Very brief	Occasional
			April	0.0-1.0	>6.0	0.0-1.0	Very brief	Occasional
			May	1.5-3.5	>6.0	0.0-1.0	Very brief	Occasional
			June	2.0-4.0	>6.0	0.0-1.0	Very brief	Rare
			July	3.0-5.0	>6.0	0.0-1.0	Very brief	Rare
			August	3.5-6.0	>6.0	0.0-1.0	Very brief	Rare
			September	5.0-6.0	>6.0	0.0-1.0	Very brief	Rare
			October	5.0-6.0	>6.0	0.0-1.0	Very brief	Rare
			November	0.5-1.5	>6.0	0.0-1.0	Very brief	Rare
			December	0.0-1.0	>6.0	0.0-1.0	Very brief	Occasional

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency
				Ft	Ft	Ft		
WprAV:								
Wirt	B	Very low						
			January	---	---	---	---	None
			February	---	---	---	---	None
			March	---	---	---	---	None
			April	---	---	---	---	None
			May	---	---	---	---	None
			June	---	---	---	---	None
			July	---	---	---	---	None
			August	---	---	---	---	None
			September	---	---	---	---	None
			October	---	---	---	---	None
			November	---	---	---	---	None
			December	---	---	---	---	None
WprAW:								
Wirt	B	Very low						
			January	---	---	---	---	None
			February	---	---	---	---	None
			March	---	---	---	---	None
			April	---	---	---	---	None
			May	---	---	---	---	None
			June	---	---	---	---	None
			July	---	---	---	---	None
			August	---	---	---	---	None
			September	---	---	---	---	None
			October	---	---	---	---	None
			November	---	---	---	---	None
			December	---	---	---	---	None
WpuAH:								
Wirt	B	Very low						
			January	---	---	---	---	None
			February	---	---	---	---	None
			March	---	---	---	---	None
			April	---	---	---	---	None
			May	---	---	---	---	None
			June	---	---	---	---	None
			July	---	---	---	---	None
			August	---	---	---	---	None
			September	---	---	---	---	None
			October	---	---	---	---	None
			November	---	---	---	---	None
			December	---	---	---	---	None

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency
				Ft	Ft	Ft		
WufB2:								
Williamstown	C	High						
			January	1.0-2.5	2.0-3.3	---	---	None
			February	1.0-2.5	2.0-3.3	---	---	None
			March	1.0-2.5	2.0-3.3	---	---	None
			April	1.5-2.5	2.0-3.3	---	---	None
			May	1.5-3.0	2.0-3.3	---	---	None
			June	1.5-3.3	2.0-3.3	---	---	None
			October	1.5-3.3	2.0-3.3	---	---	None
			November	1.5-3.0	2.0-3.3	---	---	None
			December	1.0-2.5	2.0-3.3	---	---	None
XabB2:								
Xenia	B	Low						
			January	1.5-2.5	3.3-5.0	---	---	None
			February	1.5-2.5	3.3-5.0	---	---	None
			March	1.5-2.5	3.3-5.0	---	---	None
			April	1.5-2.5	3.3-5.0	---	---	None
			May	2.0-3.5	3.3-5.0	---	---	None
			June	2.0-3.3	3.3-5.0	---	---	None
			October	2.0-3.3	3.3-5.0	---	---	None
			November	2.0-3.3	3.3-5.0	---	---	None
			December	1.5-2.5	3.3-5.0	---	---	None
ZnsB:								
Zenas	B	Low						
			Jan-Dec	---	---	---	---	None

Table 21.--Soil Features

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Hardness	Potential for frost action	Soil slippage potential	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In					
AddA:							
Avonburg---------	Fragipan	40-60	Noncemented	High	---	High	High
AddB2:							
Avonburg---------	Fragipan	40-60	Noncemented	High	---	High	High
AzoA:							
Ayrshire---------	---	---	---	High	---	High	Moderate
BbhA:							
Bartle-----------	---	---	---	High	---	High	High
BgeAH:							
Birds------------	---	---	---	High	---	High	Moderate
BgeAHU:							
Birds, undrained	---	---	---	High	---	High	Moderate
BkeB:							
Bloomfield-------	---	---	---	Low	---	Low	High
Alvin------------	---	---	---	Moderate	---	Low	High
BlbB2:							
Blocher----------	---	---	---	High	---	High	High
Jennings---------	Fragipan Lithic bedrock	20-32 60-90	Noncemented Very strongly cemented	High	---	High	High
BlcC2:							
Blocher----------	Paralithic bedrock	69-98	Weakly cemented	High	Low	High	High
Jennings---------	Fragipan Lithic bedrock	20-32 60-90	Noncemented Very strongly cemented	High	Low	High	High
Deputy-----------	Paralithic bedrock Lithic bedrock	40-60 60-80	Weakly cemented Very strongly cemented	High	Low	High	High
BlcC3:							
Blocher, severely eroded----------	Paralithic bedrock	59-83	Weakly cemented	High	Low	High	High
Jennings, severely eroded	Fragipan Lithic bedrock	15-20 60-90	Noncemented Very strongly cemented	High	Low	High	High

Table 21.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Hardness	Potential for frost action	Soil slippage potential	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In					
BlcC3:							
Deputy, severely eroded----------	Paralithic bedrock	40-60	Weakly cemented	High	Low	High	High
	Lithic bedrock	60-80	Very strongly cemented				
BlgC2:							
Blocher----------	---	---	---	High	Low	High	High
Cincinnati-------	Fragipan	20-36	Noncemented	High	Low	Moderate	High
BlgC3:							
Blocher, severely eroded----------	---	---	---	High	Low	High	High
Cincinnati, severely eroded	Fragipan	10-20	Noncemented	High	Low	Moderate	High
BlkE2:							
Bonnell----------	---	---	---	High	Medium	High	High
Blocher----------	---	---	---	High	Medium	High	High
Hickory----------	---	---	---	High	Medium	Moderate	Moderate
BnjA:							
Bobtown----------	---	---	---	Moderate	---	Moderate	High
BnuD3:							
Bonnell, severely eroded----------	---	---	---	Moderate	Medium	High	High
Hickory, severely eroded----------	---	---	---	Moderate	Medium	Moderate	Moderate
Blocher, severely eroded----------	---	---	---	High	Medium	High	High
BnxE2:							
Bonnell----------	---	---	---	High	Medium	High	High
Grayford---------	Lithic bedrock	40-60	Indurated	High	Medium	High	Moderate
BnxE3:							
Bonnell, severely eroded----------	---	---	---	Moderate	Medium	High	High
Grayford, severely eroded	Lithic bedrock	40-60	Indurated	High	Medium	High	Moderate
BobE4:							
Bonnell, very severely eroded	---	---	---	Moderate	Medium	High	High
Hickory, very severely eroded	---	---	---	Moderate	Medium	Moderate	Moderate

Table 21.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Soil slippage potential	Risk of corrosion	
	Kind	Depth to top	Hardness			Uncoated steel	Concrete
		In					
BodAQ:							
Bonnie-----------	---	---	---	High	---	High	High
CcaG:							
Caneyville-------	Lithic bedrock	20-40	Indurated	Moderate	Medium	High	Moderate
Rock outcrop.							
CcbC2:							
Caneyville-------	Lithic bedrock	20-40	Indurated	Moderate	Low	High	Moderate
Zenas------------	Lithic bedrock	40-60	Indurated	High	---	Moderate	High
CcgD2:							
Caneyville-------	Lithic bedrock	20-40	Indurated	Moderate	Medium	High	Moderate
Grayford---------	Lithic bedrock	40-60	Indurated	High	Medium	High	Moderate
CcgD3:							
Caneyville, severely eroded	Lithic bedrock	20-40	Indurated	Moderate	Medium	High	Moderate
Grayford, severely eroded	Lithic bedrock	40-60	Indurated	High	Medium	High	Moderate
CldB2:							
Cincinnati-------	Fragipan	20-36	Noncemented	High	---	Moderate	High
Blocher----------	---	---	---	High	---	High	High
ClfA:							
Cobbsfork--------	---	---	---	High	---	High	High
CwaAQ:							
Cuba-------------	---	---	---	High	---	Moderate	High
CxdA:							
Cyclone----------	---	---	---	High	---	High	Low
DfnA:							
Dubois-----------	Fragipan	22-40	Noncemented	High	---	High	High
DfnB2:							
Dubois-----------	Fragipan	22-40	Noncemented	High	---	High	High
DtwC2:							
Deputy-----------	Paralithic bedrock	40-60	Weakly cemented	High	Low	High	High
	Lithic bedrock	60-80	Very strongly cemented				

Table 21.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top (In)	Restrictive layer: Hardness	Potential for frost action	Soil slippage potential	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
DtzC3:							
Deputy, severely eroded	Paralithic bedrock	40-60	Weakly cemented	High	Low	High	High
	Lithic bedrock	60-80	Very strongly cemented				
Trappist, severely eroded	Lithic bedrock	20-40	Very strongly cemented	High	Low	High	High
EepAQ:							
Elkinsville	---	---	---	High	---	Moderate	High
EesB2:							
Elkinsville	---	---	---	High	---	Moderate	High
Millstone	---	---	---	Moderate	---	Moderate	High
FdbA:							
Fincastle	Dense material	40-60	---	High	---	High	Moderate
FdqB:							
Fincastle	Dense material	40-60	---	High	---	High	Moderate
Xenia	Dense material	40-60	---	High	---	High	Moderate
GmsF:							
Greybrook	---	---	---	High	Medium	Moderate	High
HccB2:							
Haubstadt	Fragipan	20-40	Noncemented	High	---	Moderate	High
HcgAH:							
Haymond	---	---	---	High	---	Low	Low
HcgAW:							
Haymond	---	---	---	High	---	Low	Low
HcpAP:							
Haymond, frequently ponded, depression	---	---	---	High	---	Low	Low
HeeG:							
Hickory	---	---	---	Moderate	Medium	Moderate	Moderate
HizE2:							
Hickory	---	---	---	High	Medium	Moderate	Moderate
Grayford	Lithic bedrock	40-60	Indurated	High	Medium	High	Moderate

Table 21.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Hardness	Potential for frost action	Soil slippage potential	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In					
HizE3:							
Hickory, severely eroded	---	---	---	Moderate	Medium	Moderate	Moderate
Grayford, severely eroded	Lithic bedrock	40-60	Indurated	High	Medium	High	Moderate
HleAW:							
Holton	---	---	---	High	---	High	Moderate
MhyB2:							
Medora	Fragipan	20-36	Noncemented	High	---	Moderate	High
MhyC3:							
Medora, severely eroded	Fragipan	12-20	Noncemented	High	Low	Moderate	High
MmoC3:							
Miami, severely eroded	Dense material	24-40	---	Moderate	Low	Moderate	Moderate
MmoD3:							
Miami, severely eroded	Dense material	24-40	---	Moderate	Medium	Moderate	Low
MnpC2:							
Miami	Dense material	24-40	---	Moderate	Low	Moderate	Moderate
MnpD2:							
Miami	Dense material	24-40	---	Moderate	Medium	Moderate	Moderate
NaaA:							
Nabb	Fragipan	24-40	Noncemented	High	---	High	High
NaaB2:							
Nabb	Fragipan	24-40	Noncemented	High	---	High	High
OfaAW:							
Oldenburg	---	---	---	Moderate	---	Moderate	Moderate
OmkC2:							
Otwell	Fragipan	20-36	Noncemented	High	Low	Moderate	High
OmkC3:							
Otwell, severely eroded	Fragipan	9-22	Noncemented	High	Low	Moderate	High
Omz.							
Orthents							
PcrA:							
Pekin	---	---	---	High	---	Moderate	High
PcrB2:							
Pekin	---	---	---	High	---	Moderate	High

Table 21.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Hardness	Potential for frost action	Soil slippage potential	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In					
PcrC2:							
Pekin, eroded	---	---	---	High	Low	High	High
PhaA:							
Peoga	---	---	---	High	---	High	High
PlpAH:							
Piopolis	---	---	---	High	---	High	Moderate
PlpAHU:							
Piopolis, undrained	---	---	---	High	---	High	Moderate
Pml.							
Pits, quarry							
RptG:							
Rohan	Lithic bedrock	10-20	Very strongly cemented	Moderate	Medium	High	High
Jessietown	Lithic bedrock	20-40	Very strongly cemented	High	Medium	Moderate	High
RywB2:							
Russell	Dense material	40-60	---	High	---	Moderate	Moderate
RzfA:							
Ryker, terrace	---	---	---	High	---	Moderate	Moderate
Muscatatuck, terrace	---	---	---	High	---	Moderate	High
RzfB2:							
Ryker, terrace	---	---	---	High	---	Moderate	Moderate
Muscatatuck, terrace	---	---	---	High	---	Moderate	High
RzgA:							
Ryker	---	---	---	High	---	Moderate	Moderate
Muscatatuck	---	---	---	High	---	Moderate	High
RzgB2:							
Ryker	---	---	---	High	---	Moderate	Moderate
Muscatatuck	---	---	---	High	---	Moderate	High
RzgC2:							
Ryker	Lithic bedrock	60-120	Indurated	High	Low	Moderate	Moderate
Muscatatuck	---	---	---	High	Low	Moderate	High
RzhC3:							
Ryker, severely eroded	Lithic bedrock	60-120	Indurated	High	Low	Moderate	Moderate

Table 21.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Hardness	Potential for frost action	Soil slippage potential	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In					
RzhC3:							
Grayford, severely eroded	Lithic bedrock	40-60	Indurated	High	Low	High	Moderate
Muscatatuck, severely eroded	---	---	---	High	Low	Moderate	High
SceA:							
Scottsburg-------	Paralithic bedrock	60-72	Weakly cemented	High	---	High	High
	Lithic bedrock	64-80	Very strongly cemented				
ScfB2:							
Scottsburg-------	Paralithic bedrock	60-72	Weakly cemented	High	---	High	High
	Lithic bedrock	64-80	Very strongly cemented				
Deputy-----------	Paralithic bedrock	40-60	Weakly cemented	High	---	High	High
	Lithic bedrock	60-80	Very strongly cemented				
SifE:							
Senachwine-------	---	---	---	Moderate	Medium	Low	Low
SifG:							
Senachwine-------	---	---	---	Moderate	Medium	Low	Low
SldAW:							
Shoals-----------	---	---	---	High	---	High	Low
StaAH:							
Steff------------	---	---	---	High	---	Moderate	High
StaAQ:							
Steff------------	---	---	---	High	---	Moderate	High
StdAH:							
Stendal----------	---	---	---	High	---	High	High
StdAQ:							
Stendal----------	---	---	---	High	---	High	High
SuoAH:							
Stonelick--------	---	---	---	Moderate	---	Low	Low
ThbD4:							
Trappist, very severely eroded	Lithic bedrock	20-40	Very strongly cemented	High	Medium	High	High

Table 21.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Hardness	Potential for frost action	Soil slippage potential	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In					
ThcD3:							
Trappist, severely eroded	Lithic bedrock	20-40	Very strongly cemented	High	Medium	High	High
Rohan, severely eroded	Lithic bedrock	10-20	Very strongly cemented	Moderate	Medium	High	High
ThdD2:							
Trappist	Lithic bedrock	20-40	Very strongly cemented	High	Medium	High	High
Rohan	Lithic bedrock	10-20	Very strongly cemented	Moderate	Medium	High	High
Uby. Udorthents, loamy							
UdaB:							
Urban land.							
Deputy	Paralithic bedrock	40-60	Weakly cemented	High	Low	High	High
	Lithic bedrock	60-80	Very strongly cemented				
Scottsburg	Paralithic bedrock	60-72	Weakly cemented	High	---	High	High
	Lithic bedrock	64-80	Very strongly cemented				
UfcB:							
Urban land.							
Cincinnati	Fragipan	20-36	Noncemented	High	Low	Moderate	High
Nabb	Fragipan	24-40	Noncemented	High	---	High	High
UfdA:							
Urban land.							
Cobbsfork	---	---	---	High	---	High	High
Avonburg	Fragipan	40-60	Noncemented	High	---	High	High
Usl. Udorthents, rubbish							
W. Water							
WaaAH:							
Wakeland	---	---	---	High	---	Moderate	Low

Table 21.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Hardness	Potential for frost action	Soil slippage potential	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In					
WaaAW:							
Wakeland----------	---	---	---	High	---	Moderate	Low
WnmA:							
Whitcomb----------	Lithic bedrock	60-80	Very strongly cemented	High	---	High	High
WokAH:							
Wilbur------------	---	---	---	High	---	Moderate	Low
WokAW:							
Wilbur------------	---	---	---	High	---	Moderate	Low
WooAQ:							
Wilhite-----------	---	---	---	High	---	High	Moderate
WprAV:							
Wirt--------------	---	---	---	Moderate	---	Low	Moderate
WprAW:							
Wirt--------------	---	---	---	Moderate	---	Low	Moderate
WpuAH:							
Wirt--------------	---	---	---	High	---	Low	Moderate
WufB2:							
Williamstown------	Dense material	20-40	---	Moderate	---	High	Moderate
XabB2:							
Xenia-------------	Dense material	40-60	---	High	---	High	Moderate
ZnsB:							
Zenas-------------	Lithic bedrock	40-60	Indurated	High	---	Moderate	High

Table 22.--Classification of the Soils

(An asterisk in the first column indicates a taxadjunct to the series. See text for a description of those characteristics that are outside the range of the series)

Soil name	Family or higher taxonomic class
*Alvin	Coarse-loamy, mixed, superactive, mesic Ultic Hapludalfs
Avonburg	Fine-silty, mixed, active, mesic Aeric Fragic Glossaqualfs
Ayrshire	Fine-loamy, mixed, active, mesic Aeric Endoaqualfs
*Bartle	Fine-silty, mixed, active, mesic Aeric Fragic Epiaqualfs
Birds	Fine-silty, mixed, superactive, nonacid, mesic Typic Fluvaquents
Blocher	Fine-silty, mixed, active, mesic Oxyaquic Hapludalfs
*Blocher	Fine-loamy, mixed, active, mesic Oxyaquic Hapludalfs
Bloomfield	Sandy, mixed, mesic Lamellic Hapludalfs
Bobtown	Fine-loamy, mixed, active, mesic Aquultic Hapludalfs
Bonnell	Fine, mixed, active, mesic Typic Hapludalfs
Bonnie	Fine-silty, mixed, active, acid, mesic Typic Fluvaquents
Caneyville	Fine, mixed, active, mesic Typic Hapludalfs
Cincinnati	Fine-silty, mixed, active, mesic Oxyaquic Fragiudalfs
Cobbsfork	Fine-silty, mixed, active, mesic Fragic Glossaqualfs
Cuba	Fine-silty, mixed, active, mesic Fluventic Dystrudepts
Cyclone	Fine-silty, mixed, superactive, mesic Typic Argiaquolls
Deputy	Fine-silty, mixed, active, mesic Aquic Hapludults
*Deputy	Fine, mixed, active, mesic Aquic Hapludults
Dubois	Fine-silty, mixed, active, mesic Aeric Fragiaqualfs
Elkinsville	Fine-silty, mixed, active, mesic Ultic Hapludalfs
Fincastle	Fine-silty, mixed, superactive, mesic Aeric Epiaqualfs
Grayford	Fine-loamy, mixed, active, mesic Ultic Hapludalfs
Greybrook	Fine-loamy, mixed, active, mesic Typic Hapludalfs
Haubstadt	Fine-silty, mixed, active, mesic Aquic Fragiudalfs
Haymond	Coarse-silty, mixed, superactive, mesic Dystric Fluventic Eutrudepts
Hickory	Fine-loamy, mixed, active, mesic Typic Hapludalfs
Holton	Coarse-loamy, mixed, active, nonacid, mesic Aeric Endoaquepts
Jennings	Fine-silty, mixed, active, mesic Typic Fragiudults
Jessietown	Fine-silty, mixed, semiactive, mesic Typic Hapludults
Medora	Fine-silty, mixed, active, mesic Typic Fragiudults
Miami	Fine-loamy, mixed, active, mesic Oxyaquic Hapludalfs
Millstone	Fine-loamy, mixed, active, mesic Typic Hapludults
Muscatatuck	Fine-silty, mixed, active, mesic Fragiaquic Paleudults
Nabb	Fine-silty, mixed, active, mesic Aquic Fragiudalfs
Oldenburg	Coarse-loamy, mixed, active, mesic Fluvaquentic Eutrudepts
Otwell	Fine-silty, mixed, active, mesic Oxyaquic Fragiudalfs
*Otwell	Fine-loamy, mixed, active, mesic Oxyaquic Fragiudalfs
*Pekin	Fine-silty, mixed, active, mesic Fragiaquic Hapludults
Peoga	Fine-silty, mixed, superactive, mesic Fragic Epiaqualfs
Piopolis	Fine-silty, mixed, active, acid, mesic Fluvaquentic Endoaquepts
Rohan	Loamy-skeletal, mixed, semiactive, mesic Lithic Dystrudepts
Russell	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Ryker	Fine-silty, mixed, active, mesic Typic Paleudalfs
Scottsburg	Fine-silty, mixed, semiactive, mesic Aquic Hapludults
Senachwine	Fine-loamy, mixed, active, mesic Typic Hapludalfs
Shoals	Fine-loamy, mixed, superactive, nonacid, mesic Fluventic Endoaquepts
Steff	Fine-silty, mixed, active, mesic Fluvaquentic Dystrudepts
*Steff	Coarse-silty, mixed, active, mesic Fluvaquentic Dystrudepts
Stendal	Fine-silty, mixed, active, acid, mesic Fluventic Endoaquepts
Stonelick	Coarse-loamy, mixed, superactive, calcareous, mesic Typic Udifluvents
Trappist	Fine, mixed, semiactive, mesic Typic Hapludults
Wakeland	Coarse-silty, mixed, superactive, nonacid, mesic Aeric Fluvaquents
Whitcomb	Fine-silty, mixed, active, mesic Aeric Paleaquults
Wilbur	Coarse-silty, mixed, superactive, mesic Fluvaquentic Eutrudepts
Wilhite	Fine, mixed, active, nonacid, mesic Fluvaquentic Endoaquepts
Williamstown	Fine-loamy, mixed, active, mesic Aquic Hapludalfs
Wirt	Coarse-loamy, mixed, superactive, mesic Dystric Fluventic Eutrudepts
Xenia	Fine-silty, mixed, superactive, mesic Aquic Hapludalfs
Zenas	Fine-silty, mixed, active, mesic Typic Hapludalfs

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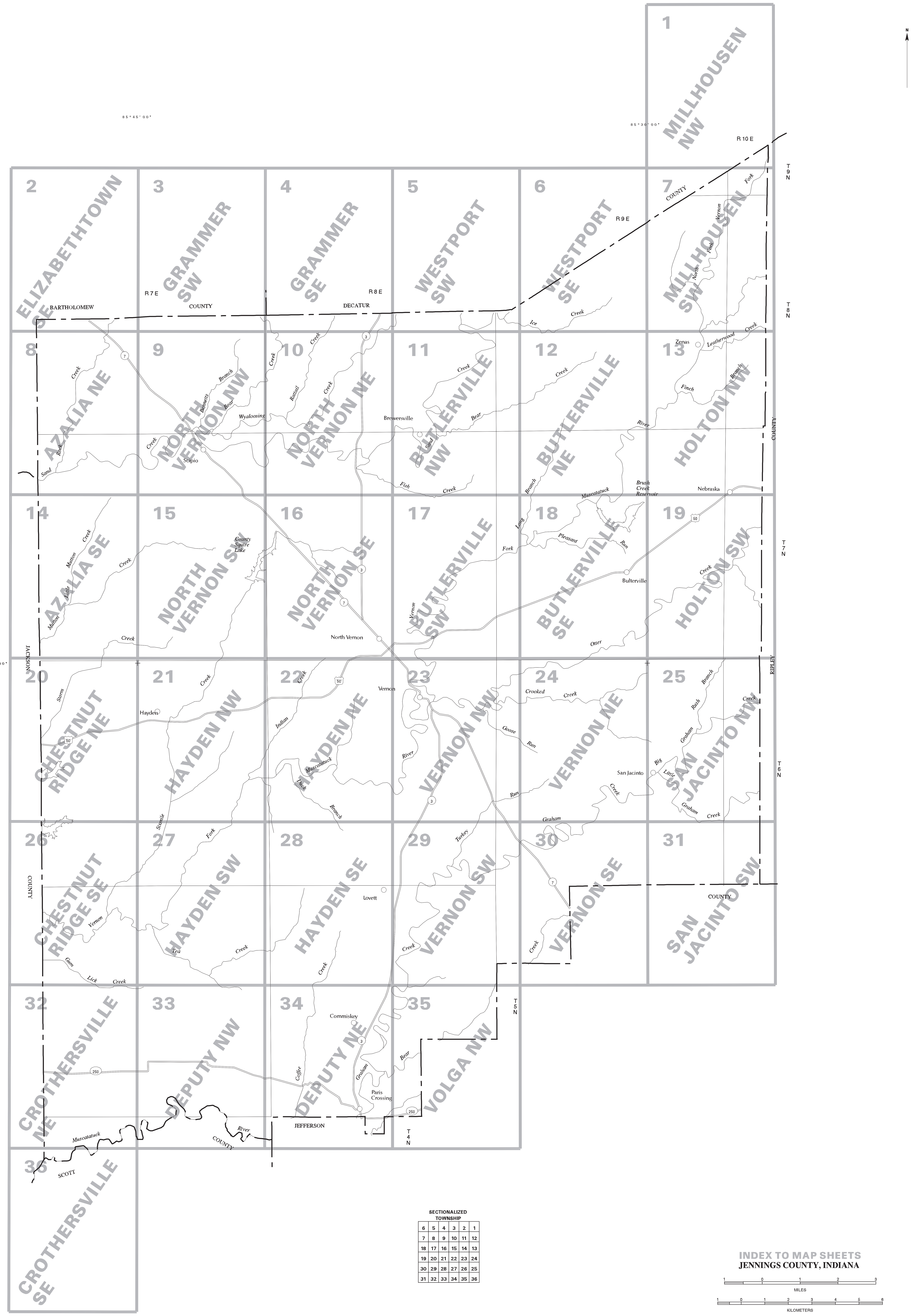

SECTIONALIZED TOWNSHIP

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

INDEX TO MAP SHEETS
JENNINGS COUNTY, INDIANA

1 0 1 2 3
MILES

1 0 1 2 3 4 5 6
KILOMETERS

SCALE = 1:85000

OIL LEGEND

ters or of letters and numbers. The initial one to three letters represent
he first three letters indicates a slope class. Map symbols without a
s. The number 2 after the slope class letter indicates moderate
ion, and the number 4 indicates very severe erosion. A second
er phases, as follows: H indicates frequent flooding for periods of long
eriods of very brief duration, W indicates occasional flooding for
re flooding, U indicates an undrained phase, and P indicates ponding.

d
s, eroded
es, severely eroded
ration

SYMBOL	NAME
NaaB2	Nabb silt loam, 2 to 6 percent slopes, eroded
OfaAW	Oldenburg silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration
OmkC2	Otwell silt loam, 6 to 12 percent slopes, eroded
OmkC3	Otwell silt loam, 6 to 12 percent slopes, severely eroded
Omz	Orthents, earthen dam
PcrA	Pekin silt loam, 0 to 2 percent slopes
PcrB2	Pekin silt loam, 2 to 6 percent slopes, eroded
PcrC2	Pekin silt loam, 6 to 12 percent slopes, eroded
PhaA	Peoga silt loam, 0 to 1 percent slopes
PlpAH	Piopolis silty clay loam, 0 to 1 percent slopes, frequently flooded, brief duration
PlpAHU	Piopolis silty clay loam, undrained, 0 to 1 percent slopes, frequently flooded, brief duration
Pml	Pits, quarry
RptG	Rohan-Jessietown complex, 25 to 60 percent slopes, rocky
RywB2	Russell silt loam, 2 to 6 percent slopes, eroded
RzfA	Ryker-Muscatatuck silt loams, terrace, 0 to 2 percent slopes
RzfB2	Ryker-Muscatatuck silt loams, terrace, 2 to 6 percent slopes, eroded
RzgA	Ryker-Muscatatuck silt loams, karst, nearly level
RzgB2	Ryker-Muscatatuck silt loams, karst, undulating, eroded
RzgC2	Ryker-Muscatatuck silt loams, karst, rolling, eroded
RzhC3	Ryker-Grayford-Muscatatuck complex, karst, rolling, severely eroded
SceA	Scottsburg silt loam, 0 to 2 percent slopes
ScfB2	Scottsburg-Deputy silt loams, 2 to 6 percent slopes, eroded
SifE	Senachwine loam, 18 to 25 percent slopes
SifG	Senachwine loam, 25 to 70 percent slopes
SldAW	Shoals silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration
StaAH	Steff silt loam, 0 to 2 percent slopes, frequently flooded, brief duration
StaAQ	Steff silt loam, 0 to 2 percent slopes, rarely flooded
StdAH	Stendal silt loam, 0 to 2 percent slopes, frequently flooded, brief duration
StdAQ	Stendal silt loam, 0 to 2 percent slopes, rarely flooded
SuoAH	Stonelick fine sandy loam, 0 to 2 percent slopes, frequently flooded, brief duration
ThbD4	Trappist silty clay loam, 6 to 18 percent slopes, very severely eroded
ThcD3	Trappist-Rohan complex, 12 to 25 percent slopes, severely eroded
ThdD2	Trappist-Rohan silt loams, 12 to 25 percent slopes, eroded
Uby	Udorthents, loamy
UdaB	Urban land-Deputy-Scottsburg complex, 2 to 15 percent slopes
UfcB	Urban land-Cincinnati-Nabb complex, 2 to 12 percent slopes
UfdA	Urban land-Cobbsfork-Avonburg complex, 0 to 2 percent slopes
Usl	Udorthents, rubbish
W	Water
WaaAH	Wakeland silt loam, 0 to 2 percent slopes, frequently flooded, brief duration
WaaAW	Wakeland silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration
WnmA	Whitcomb silt loam, 0 to 2 percent slopes
WokAH	Wilbur silt loam, 0 to 2 percent slopes, frequently flooded, brief duration
WokAW	Wilbur silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration
WooAQ	Wilhite silt loam, overwash, 0 to 1 percent slopes, rarely flooded
WprAV	Wirt loam, 0 to 2 percent slopes, frequently flooded, very brief duration
WprAW	Wirt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration
WpuAH	Wirt silt loam, 0 to 2 percent slopes, frequently flooded, brief duration
WufB2	Williamstown silt loam, 2 to 6 percent slopes, eroded
XabB2	Xenia silt loam, 2 to 6 percent slopes, eroded
ZnsB	Zenas silt loam, karst, undulating

CONVENTIONAL AND SPECIAL SYMBOLS LEGEND

CULTURAL FEATURES

BOUNDARIES

National, state, or province

County or parish

Field sheet matchline and neatline

Public Land Survey System

GEOGRAPHIC COORDINATE TICK

ROAD EMBLEMS AND DESIGNATIONS

Interstate 173

Federal 287

State 52

LOCATED OBJECTS

Airport Label only

AD HOC FEATURES

Unclassified water

SOIL SURVEY FEATURES

SOIL DELINEATIONS AND SYMBOLS AddA BkeB

MISCELLANEOUS SURFACE FEATURES

Bedrock

Nonbedrock escarpment

Sandy spot

Severely eroded spot

Short steep slope

Sinkhole

Wet spot

HYDROGRAPHIC FEATURES

Unclassified stream

Drainage end (indicates direction of flow)

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

JENNINGS COUNTY, INDIANA
MILLHOUSEN NW QUADRANGLE
SHEET NUMBER 1 OF 36

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North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

A	B	C
D		E
6	7	F

A FOREST HILL SE
B GREENSBURG SW
C GREENSBURG SE
D WESTPORT NE
E MILLHOUSEN NE
6 WESTPORT SE
7 MILLHOUSEN SW
F MILLHOUSEN SE

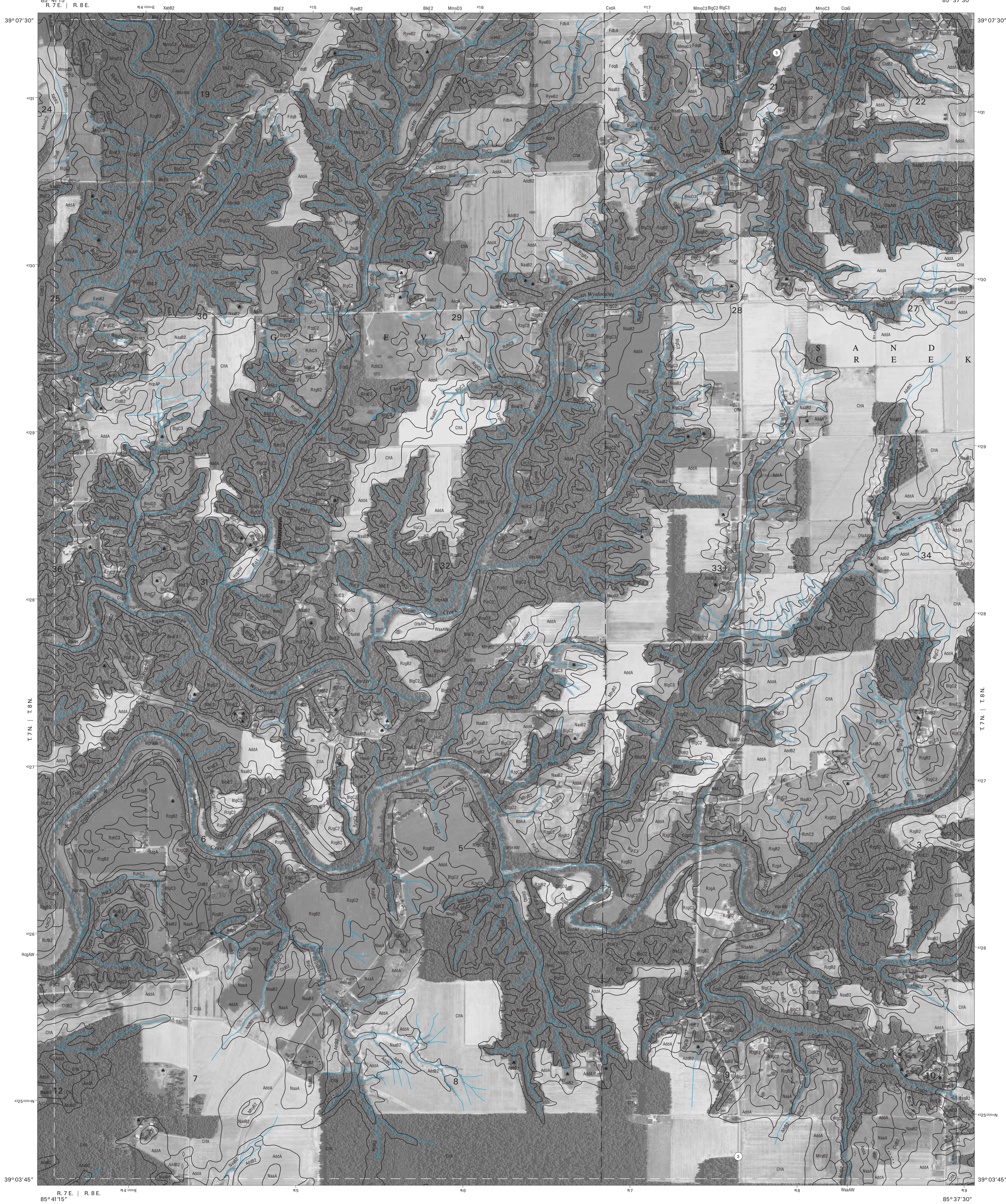
INDEX TO ADJOINING 3.75 MAPS

MILLHOUSEN NW, INDIANA
3.75 MINUTE SERIES
SHEET NUMBER 1 OF 36

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

JENNINGS COUNTY, INDIANA
NORTH VERNON NE QUADRANGLE
SHEET NUMBER 10 OF 36



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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

3	4	5
9		11
15	16	17

3 GRAMMER SW
4 GRAMMER SE
5 WESTPORT SW
9 NORTH VERNON NW
11 BUTLERVILLE NW
15 NORTH VERNON SW
16 NORTH VERNON SE
17 BUTLERVILLE SW

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NORTH VERNON NE, INDIANA
3.75 MINUTE SERIES
SHEET NUMBER 10 OF 36

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UNITED STATES
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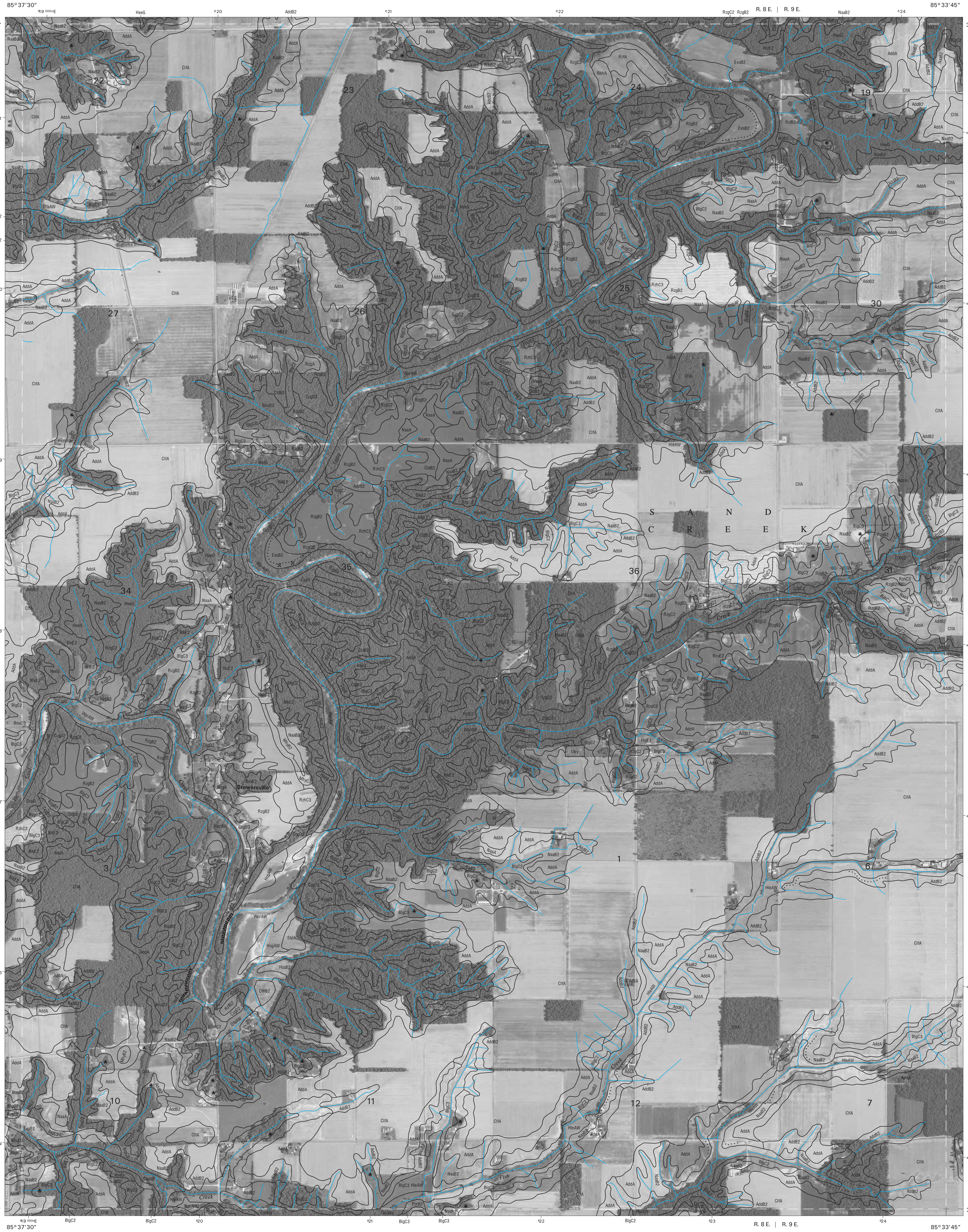
NATURAL RESOURCES CONSERVATION SERVICE

JENNINGS COUNTY, INDIANA
BUTLERVILLE NW QUADRANGLE
SHEET NUMBER 11 OF 36



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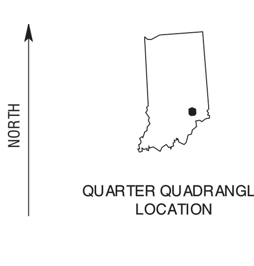

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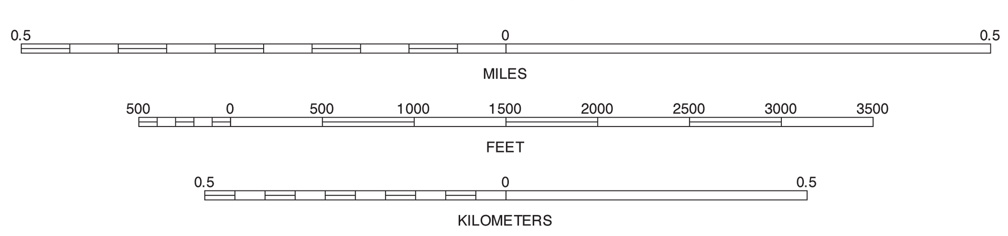

4	5	6
10		12
16	17	18

4 GRAMMER SE
5 WESTPORT SW
6 WESTPORT SE
10 NORTH VERNON NE
12 BUTLERVILLE NE
16 NORTH VERNON SE
17 BUTLERVILLE SW
18 BUTLERVILLE SE

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BUTLERVILLE NW, INDIANA
3.75 MINUTE SERIES
SHEET NUMBER 11 OF 36

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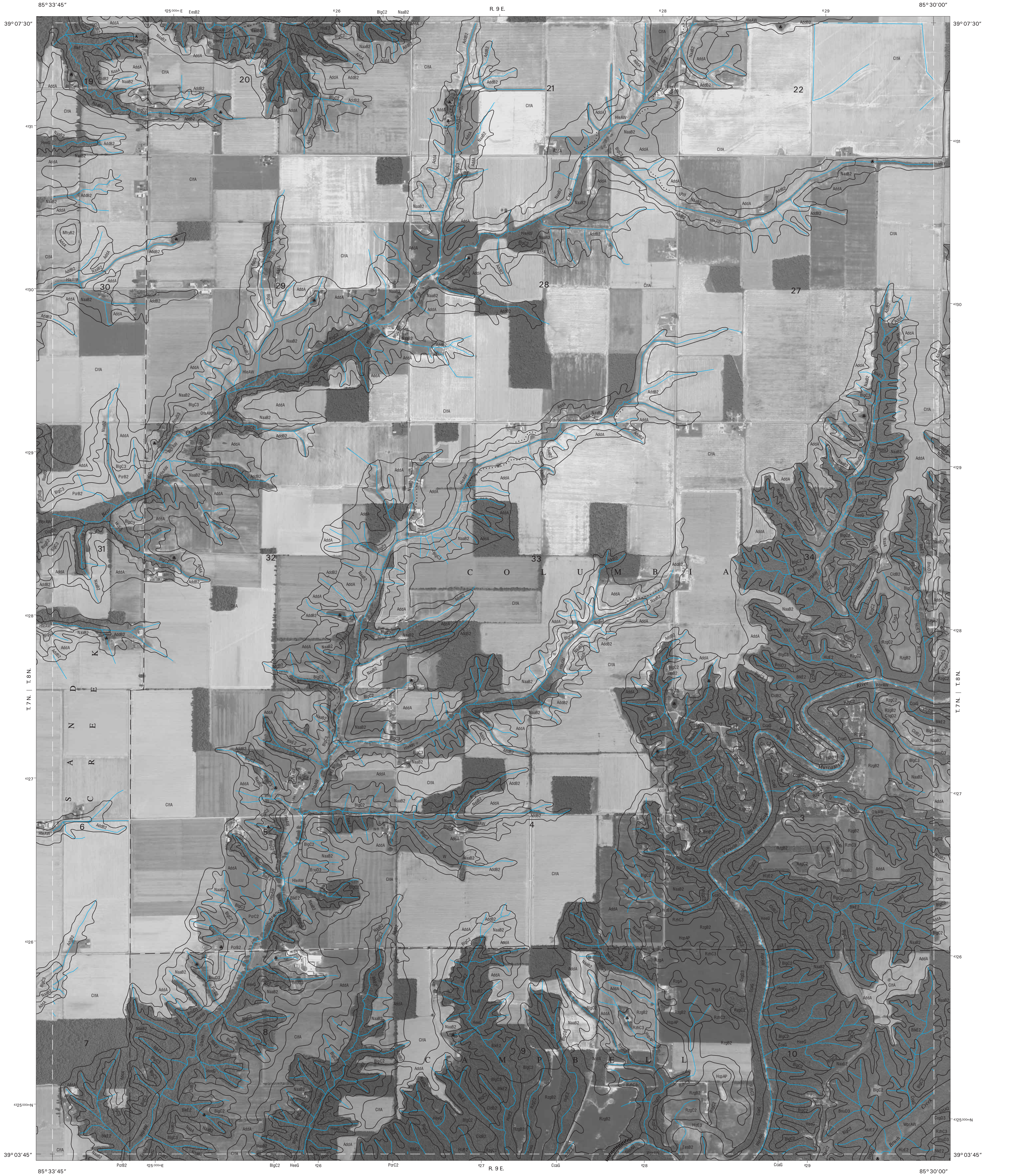

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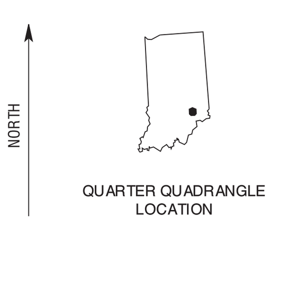

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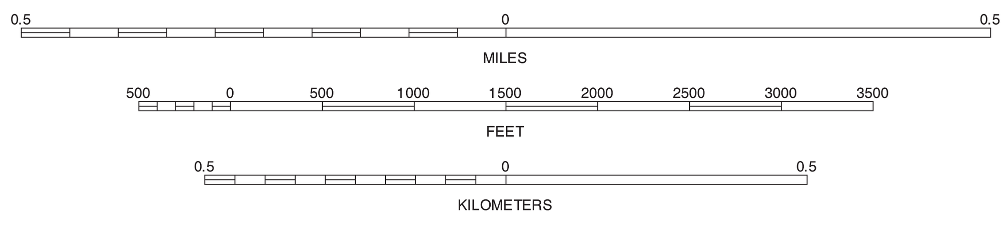

5	6	7
11		13
17	18	19

5 WESTPORT SW
6 WESTPORT SE
7 MILLHOUSEN SW
11 BUTLERVILLE NW
13 HOLTON NW
17 BUTLERVILLE SW
18 BUTLERVILLE SE
19 HOLTON SW

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BUTLERVILLE NE, INDIANA

3.75 MINUTE SERIES
SHEET NUMBER 12 OF 36

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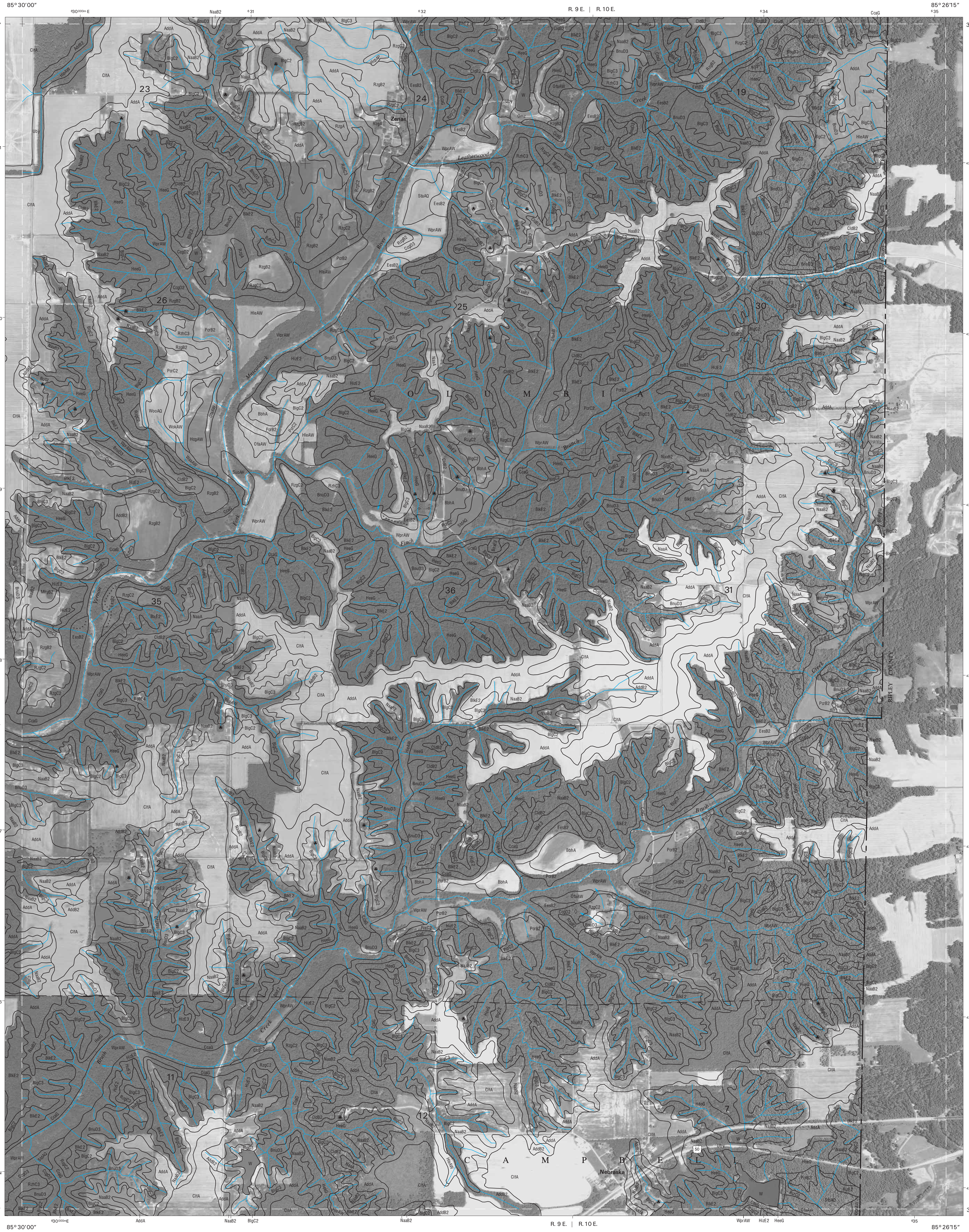

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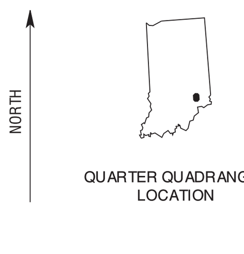

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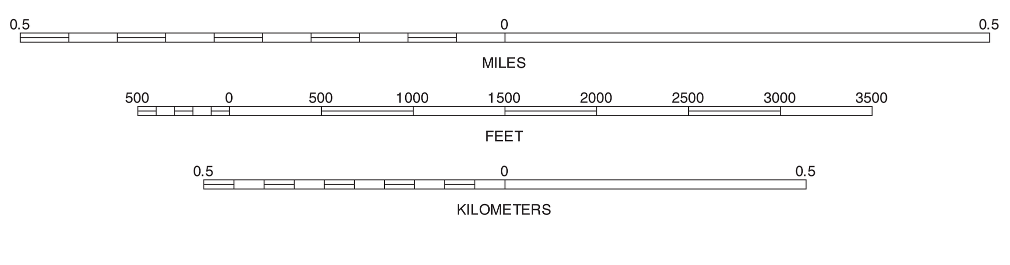

6	7	A
12		B
18	19	C

6 WESTPORT SE
7 MILLHOUSEN SW
A MILLHOUSEN SE
12 BUTLERVILLE NE
B HOLTON NE
18 BUTLERVILLE SE
19 HOLTON SW
C HOLTON SE

INDEX TO ADJOINING 3.75 MAPS

HOLTON NW, INDIANA

3.75 MINUTE SERIES
SHEET NUMBER 13 OF 36

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1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

A	8	9
B		15
C	20	21

A AZALIA NW
8 AZALIA NE
9 NORTH VERNON NW
B AZALIA SW
15 NORTH VERNON SW
C CHESTNUT RIDGE NW
20 CHESTNUT RIDGE NE
21 HAYDEN NW

INDEX TO ADJOINING 3.75 MAPS

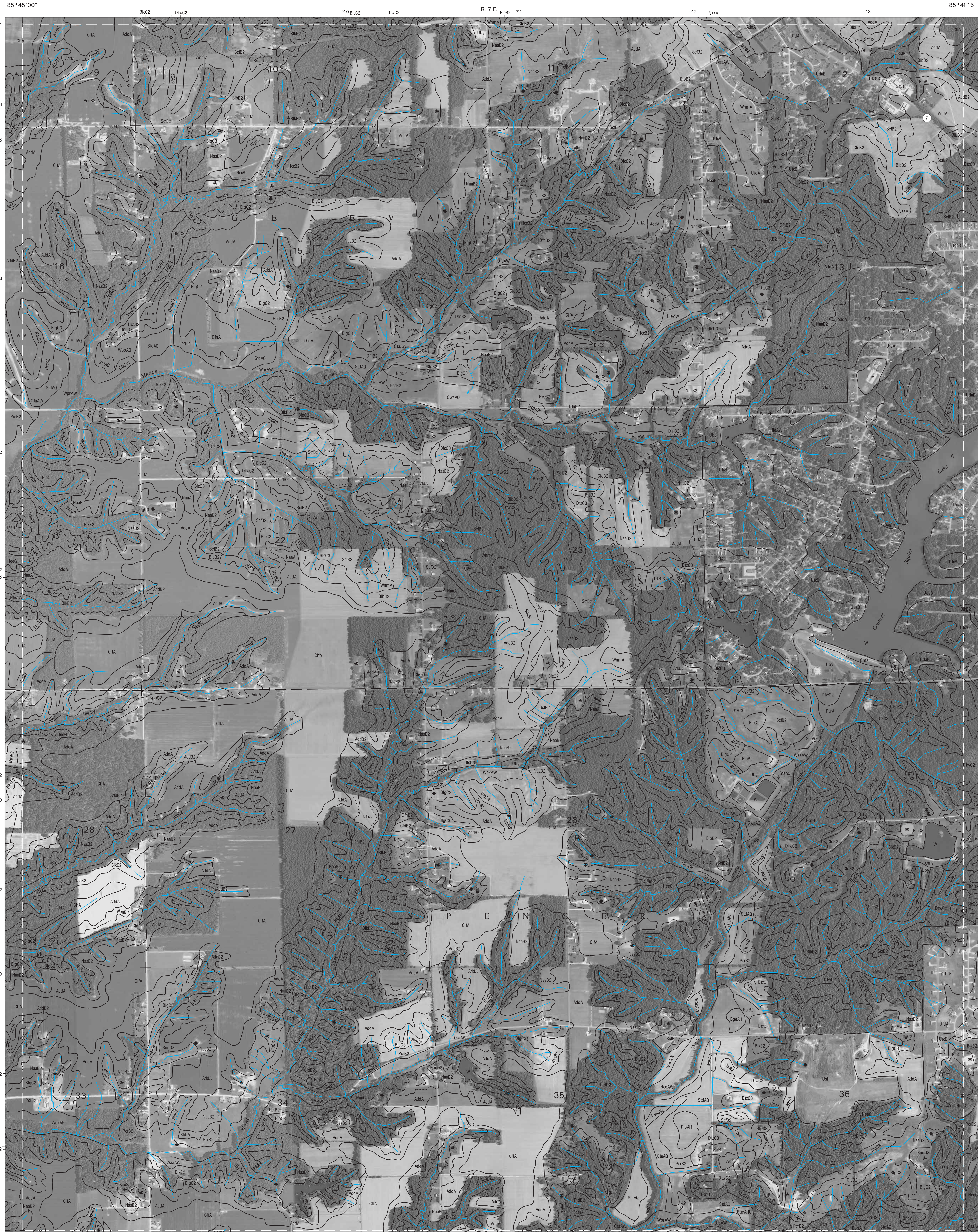
AZALIA SE, INDIANA

3.75 MINUTE SERIES
SHEET NUMBER 14 OF 36

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

JENNINGS COUNTY, INDIANA
NORTH VERNON SW QUADRANGLE
SHEET NUMBER 15 OF 36



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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

8	9	10
14		16
20	21	22

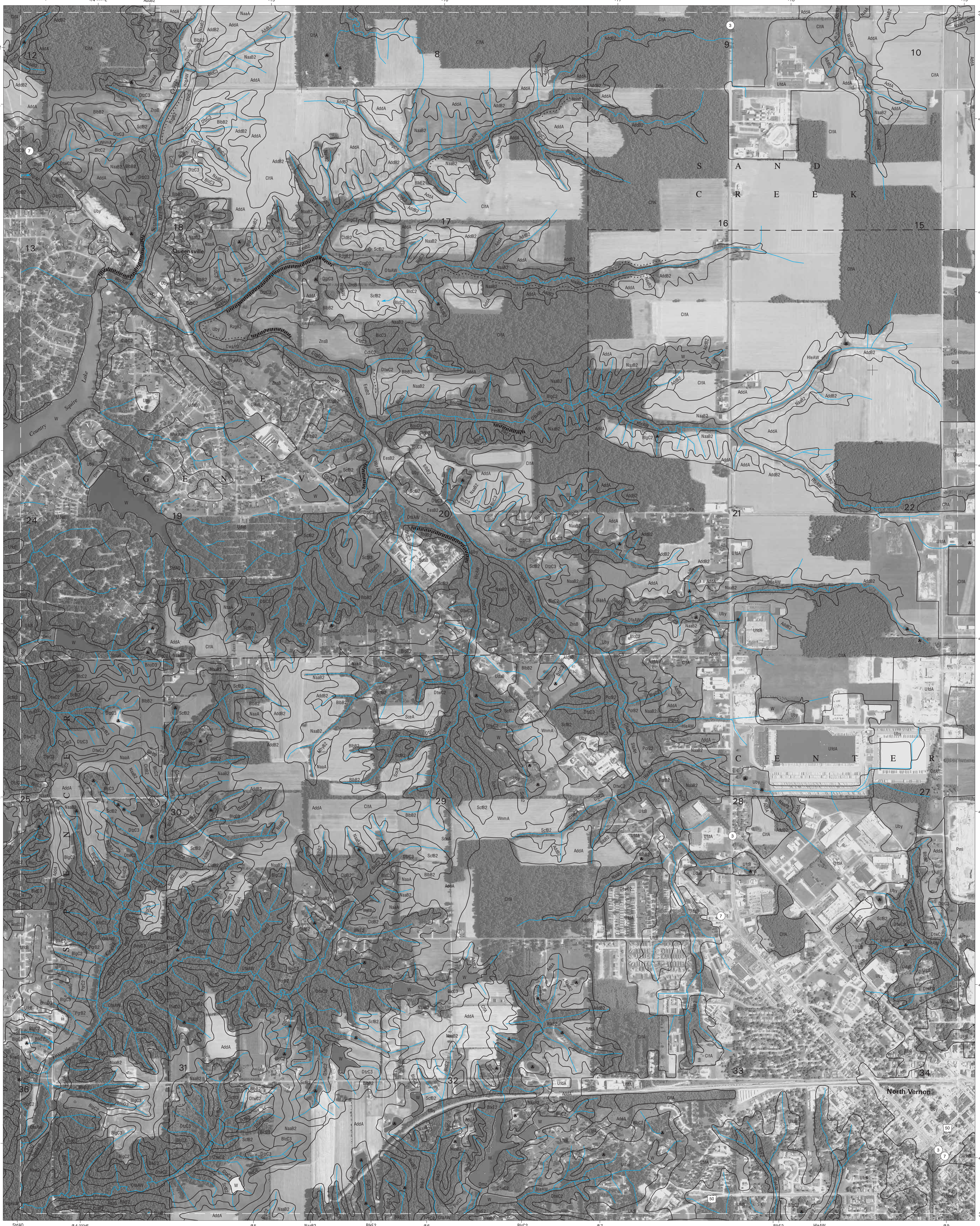
8 AZALIA NE
9 NORTH VERNON NW
10 NORTH VERNON NE
14 AZALIA SE
16 NORTH VERNON SE
20 CHESTNUT RIDGE NE
21 HAYDEN NW
22 HAYDEN NE

INDEX TO ADJOINING 3.75 MAPS

NORTH VERNON SW, INDIANA

3.75 MINUTE SERIES
SHEET NUMBER 15 OF 36

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



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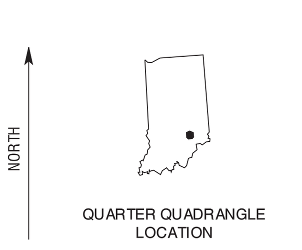


QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 — 0 — 0.5
MILES

500 — 0 — 500 — 1000 — 1500 — 2000 — 2500 — 3000 — 3500
FEET

0.5 — 0 — 0.5
KILOMETERS

9	10	11
15		17
21	22	23

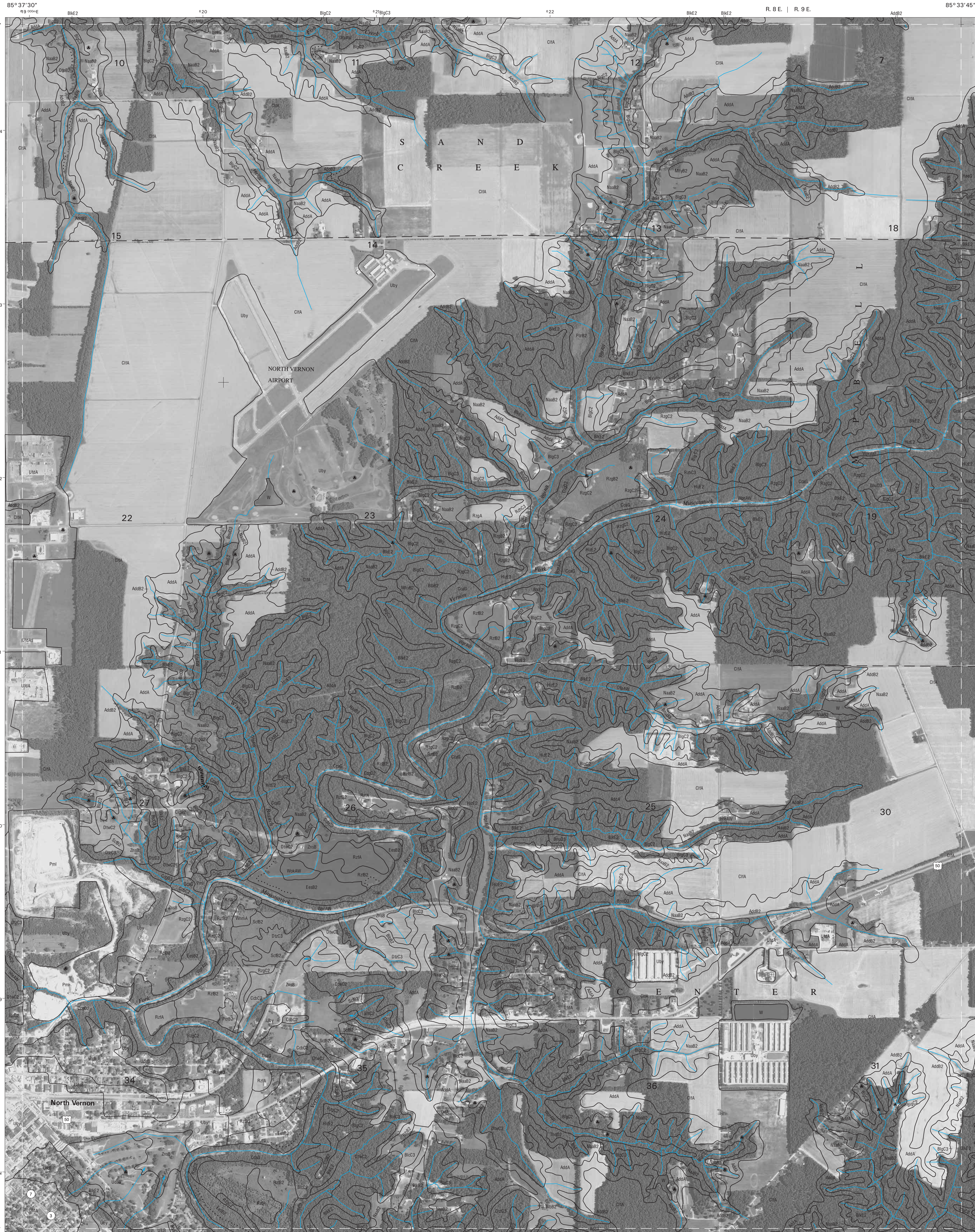
9 NORTH VERNON NW
10 NORTH VERNON NE
11 BUTLERVILLE NW
15 NORTH VERNON SW
17 BUTLERVILLE SW
21 HAYDEN NW
22 HAYDEN NE
23 VERNON NW

INDEX TO ADJOINING 3.75 MAPS

NORTH VERNON SE, INDIANA
3.75 MINUTE SERIES
SHEET NUMBER 16 OF 36

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

85° 37′30″ 39° 03′45″ R. 8 E. | R. 9 E. 85° 33′45″ 39° 03′45″



39° 00′00″ 85° 37′30″ R. 8 E. | R. 9 E. 85° 33′45″ 39° 00′00″

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North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

10	11	12
16		18
22	23	24

10 NORTH VERNON NE
11 BUTLERVILLE NW
12 BUTLERVILLE NE
16 NORTH VERNON SE
18 BUTLERVILLE SE
22 HAYDEN NE
23 VERNON NW
24 VERNON NE

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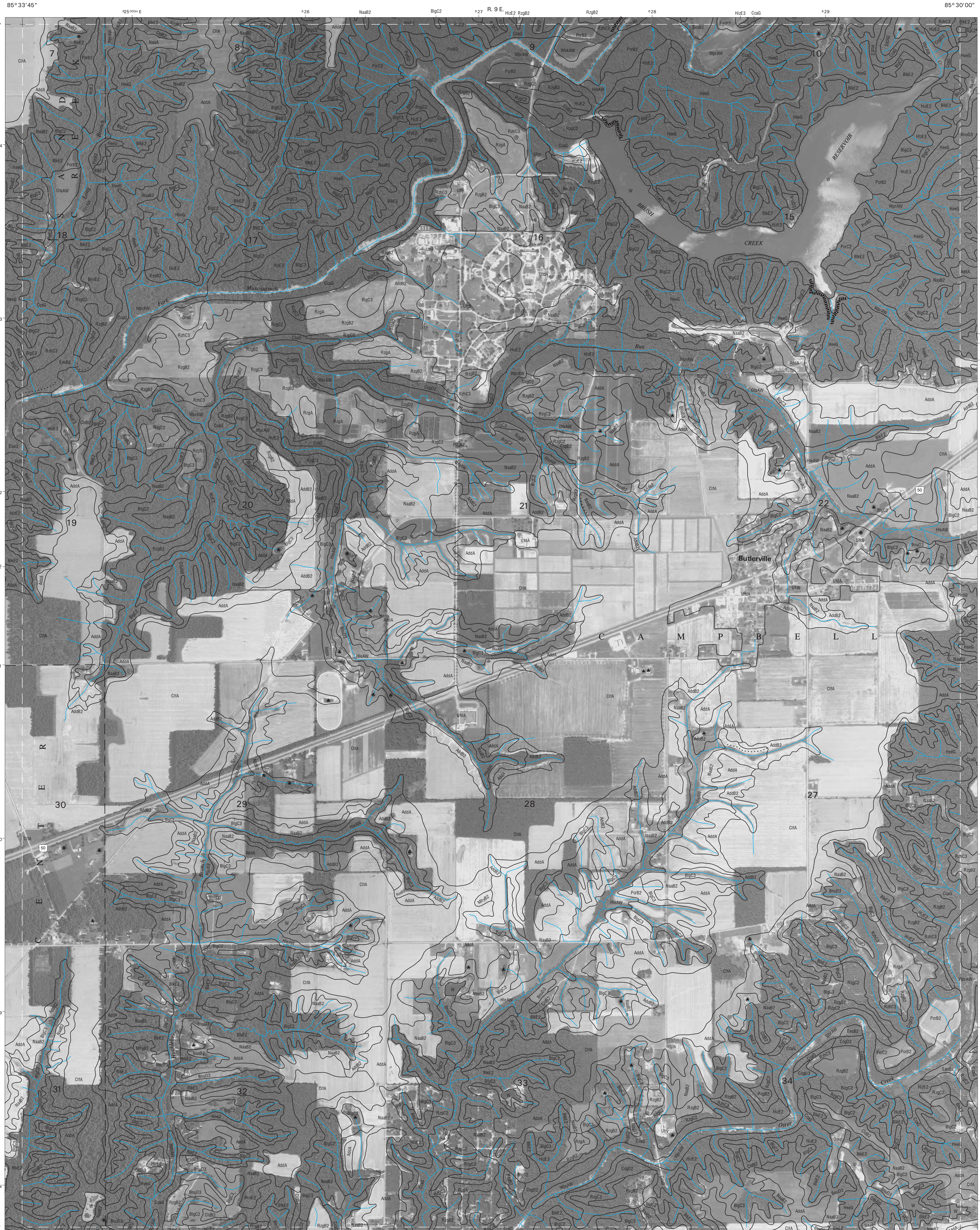
BUTLERVILLE SW, INDIANA
3.75 MINUTE SERIES
SHEET NUMBER 17 OF 36

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

JENNINGS COUNTY, INDIANA
BUTLERVILLE SE QUADRANGLE
SHEET NUMBER 18 OF 36



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North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES: 0.5 — 0 — 0.5

FEET: 500 — 0 — 500 — 1000 — 1500 — 2000 — 2500 — 3000 — 3500

KILOMETERS: 0.5 — 0 — 0.5

11	12	13
17		19
23	24	25

11 BUTLERVILLE NW
12 BUTLERVILLE NE
13 HOLTON NW
17 BUTLERVILLE SW
19 HOLTON SW
23 VERNON NW
24 VERNON NE
25 SAN JACINTO NW

INDEX TO ADJOINING 3.75 MAPS

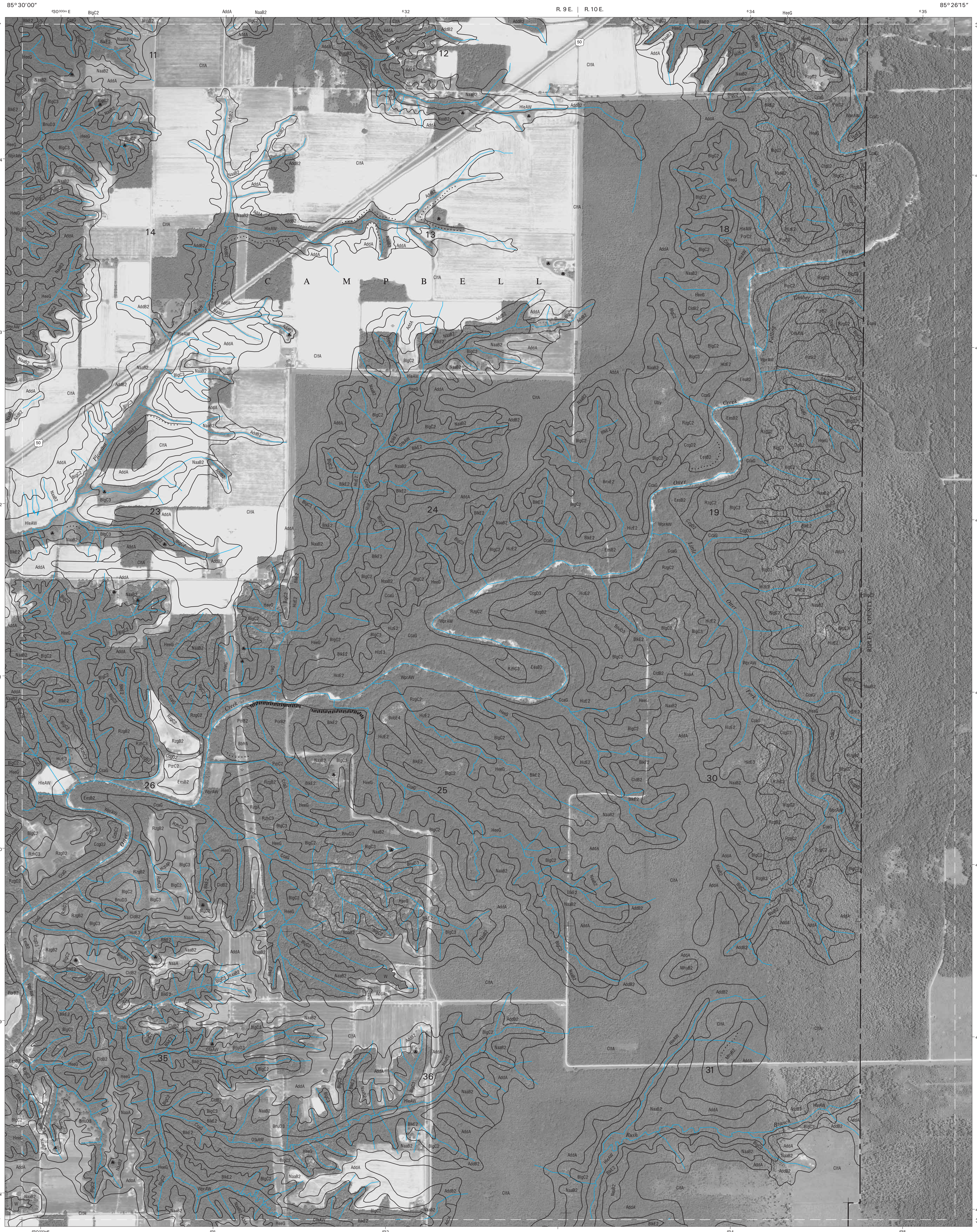
BUTLERVILLE SE, INDIANA
3.75 MINUTE SERIES
SHEET NUMBER 18 OF 36

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

JENNINGS COUNTY, INDIANA
HOLTON SW QUADRANGLE
SHEET NUMBER 19 OF 36

85° 30′00″ — 85° 26′15″
39° 03′45″ — 39° 00′00″



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North American Datum of 1983 (NAD83). GRS - 80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

12	13	A	12 BUTLERVILLE NE 13 HOLTON NW A HOLTON NE
18		B	18 BUTLERVILLE SE B HOLTON SE 24 VERNON NE
24	25	C	25 SAN JACINTO NW C SAN JACINTO NE

INDEX TO ADJOINING 3.75 MAPS

HOLTON SW, INDIANA
3.75 MINUTE SERIES
SHEET NUMBER 19 OF 36

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

85° 48′ 45″ | 85° 45′ 00″
39° 11′ 15″

39° 07′ 30″
603000mE | 604 | 605 | 606 | 607 | 608
85° 48′ 45″ | 85° 45′ 00″
R. 6 E. | R. 7 E.

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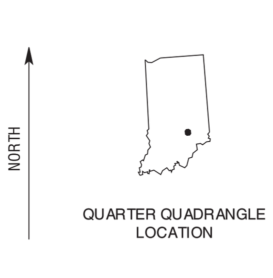


QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 — 0 — 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 — 0 — 0.5 KILOMETERS

A	B	C
D		3
E	8	9

A ELIZABETHTOWN NW
B ELIZABETHTOWN NE
C GRAMMER NW
D ELIZABETHTOWN SW
3 GRAMMER SW
E AZALIA NW
8 AZALIA NE
9 NORTH VERNON NW

INDEX TO ADJOINING 3.75 MAPS

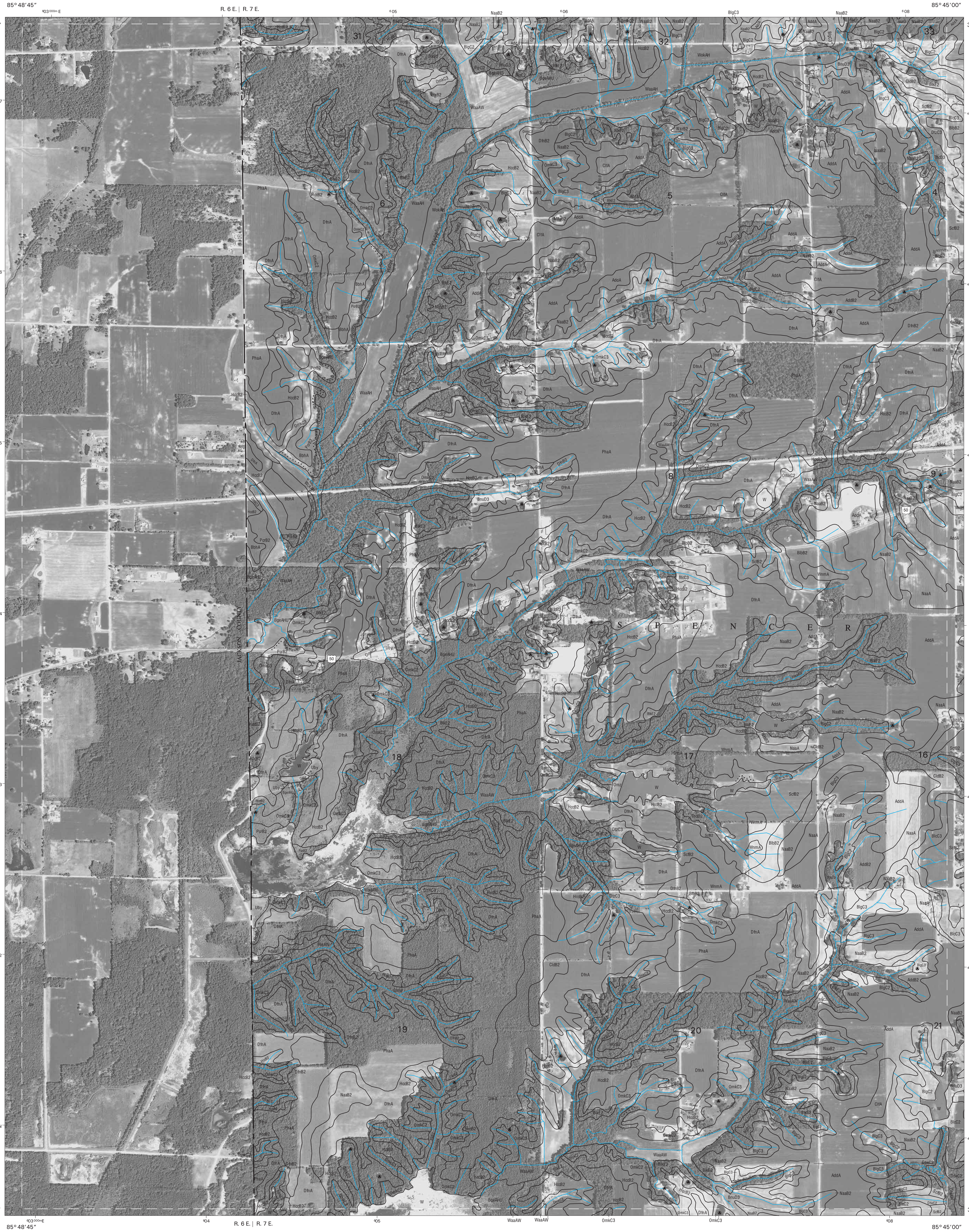
ELIZABETHTOWN SE, INDIANA

3.75 MINUTE SERIES
SHEET NUMBER 2 OF 36

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

JENNINGS COUNTY, INDIANA
CHESTNUT RIDGE NE QUADRANGLE
SHEET NUMBER 20 OF 36



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North American Datum of 1983 (NAD83). GRS - 80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

A	14	15
B		21
C	26	27

A AZALIA SW
14 AZALIA SE
15 NORTH VERNON SW
B CHESTNUT RIDGE NW
21 HAYDEN NW
C CHESTNUT RIDGE SW
26 CHESTNUT RIDGE SE
27 HAYDEN SW

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CHESTNUT RIDGE NE, INDIANA
3.75 MINUTE SERIES
SHEET NUMBER 20 OF 36

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

JENNINGS COUNTY, INDIANA
HAYDEN NW QUADRANGLE
SHEET NUMBER 21 OF 36

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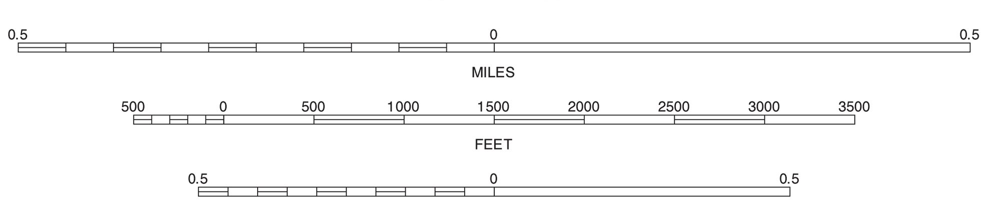
North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

QUARTER QUADRANGLE LOCATION

SCALE 1:12000



14	15	16
20		22
26	27	28

14 AZALIA SE
15 NORTH VERNON SW
16 NORTH VERNON SE
20 CHESTNUT RIDGE NE
22 HAYDEN NE
26 CHESTNUT RIDGE SE
27 HAYDEN SW
28 HAYDEN SE

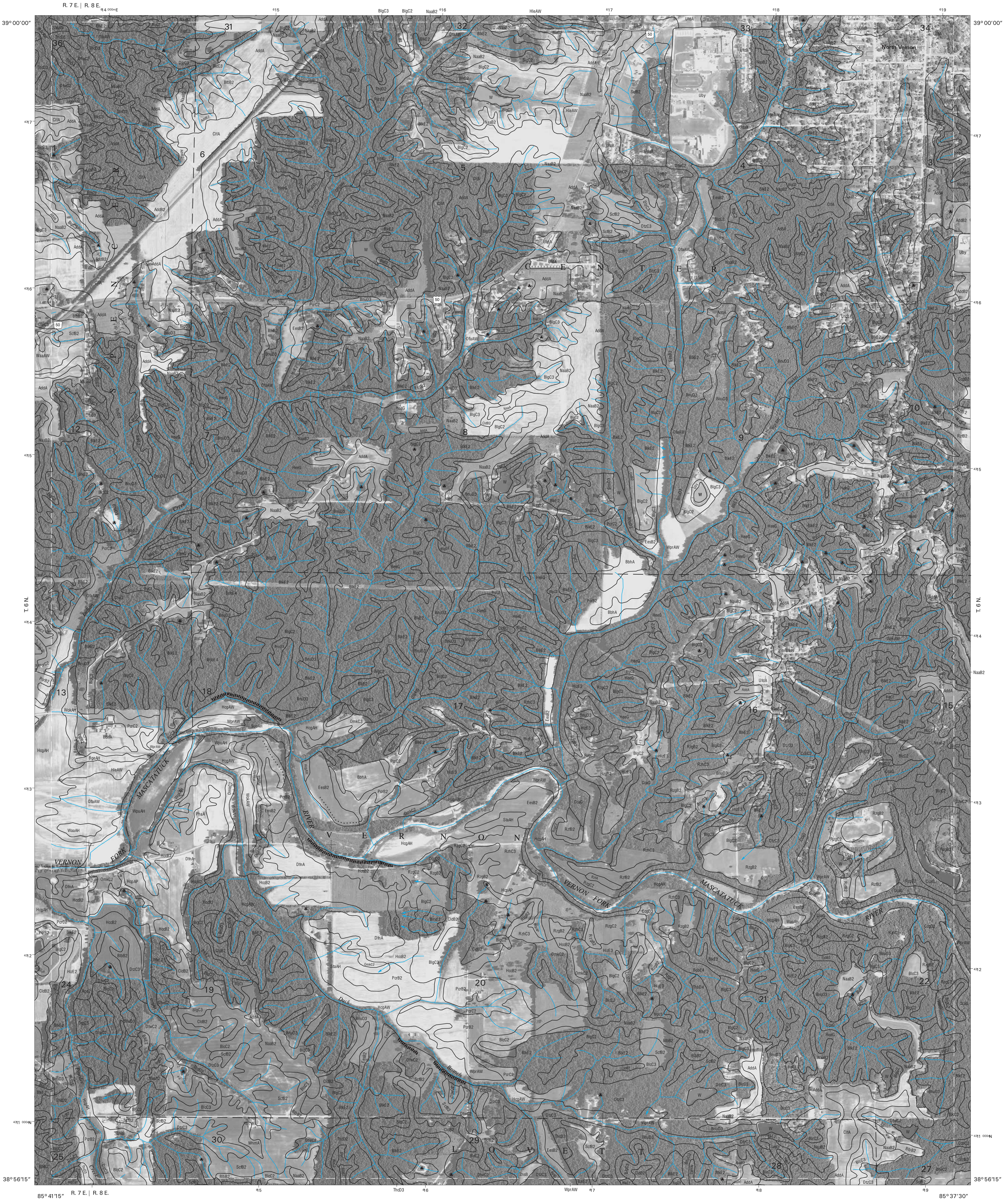
INDEX TO ADJOINING 3.75 MAPS

HAYDEN NW, INDIANA
3.75 MINUTE SERIES
SHEET NUMBER 21 OF 36

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

JENNINGS COUNTY, INDIANA
HAYDEN NE QUADRANGLE
SHEET NUMBER 22 OF 36



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North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE
LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

15	16	17
21		23
27	28	29

15 NORTH VERNON SW
16 NORTH VERNON SE
17 BUTLERVILLE SW
21 HAYDEN NW
23 VERNON NW
27 HAYDEN SW
28 HAYDEN SE
29 VERNON SW

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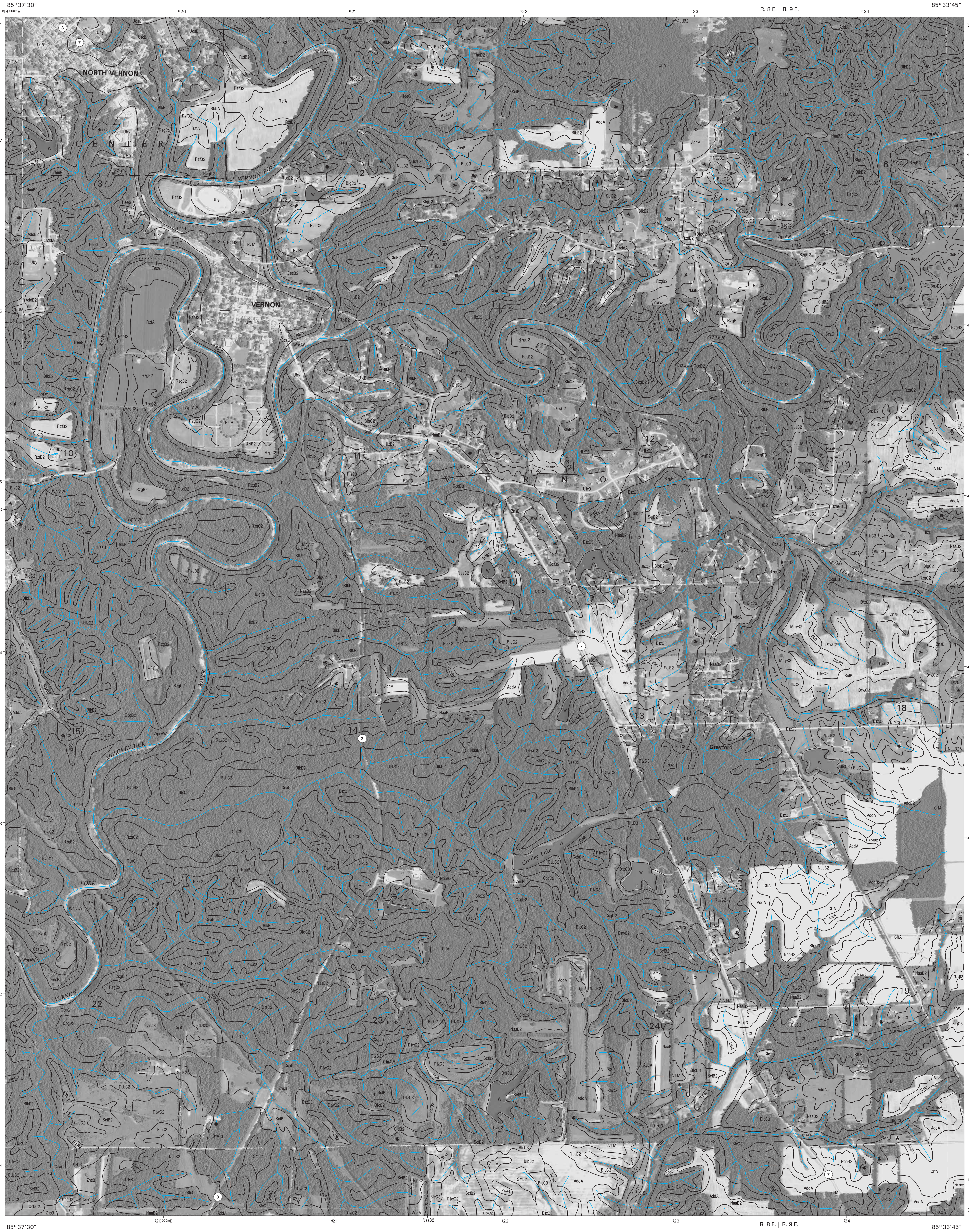
HAYDEN NE, INDIANA

3.75 MINUTE SERIES
SHEET NUMBER 22 OF 36

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

JENNINGS COUNTY, INDIANA
VERNON NW QUADRANGLE
SHEET NUMBER 23 OF 36



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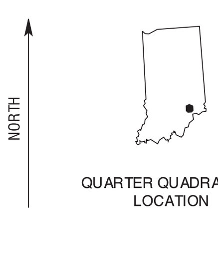
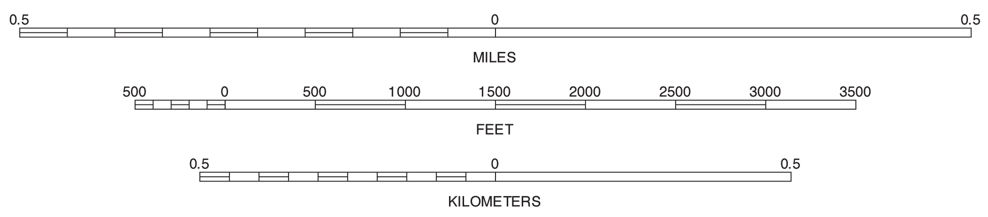


QUARTER QUADRANGLE LOCATION

SCALE 1:12000



16	17	18
22		24
28	29	30

16 NORTH VERNON SE
17 BUTLERVILLE SW
18 BUTLERVILLE SE
22 HAYDEN NE
24 VERNON NE
28 HAYDEN SE
29 VERNON SW
30 VERNON SE

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VERNON NW, INDIANA
3.75 MINUTE SERIES
SHEET NUMBER 23 OF 36

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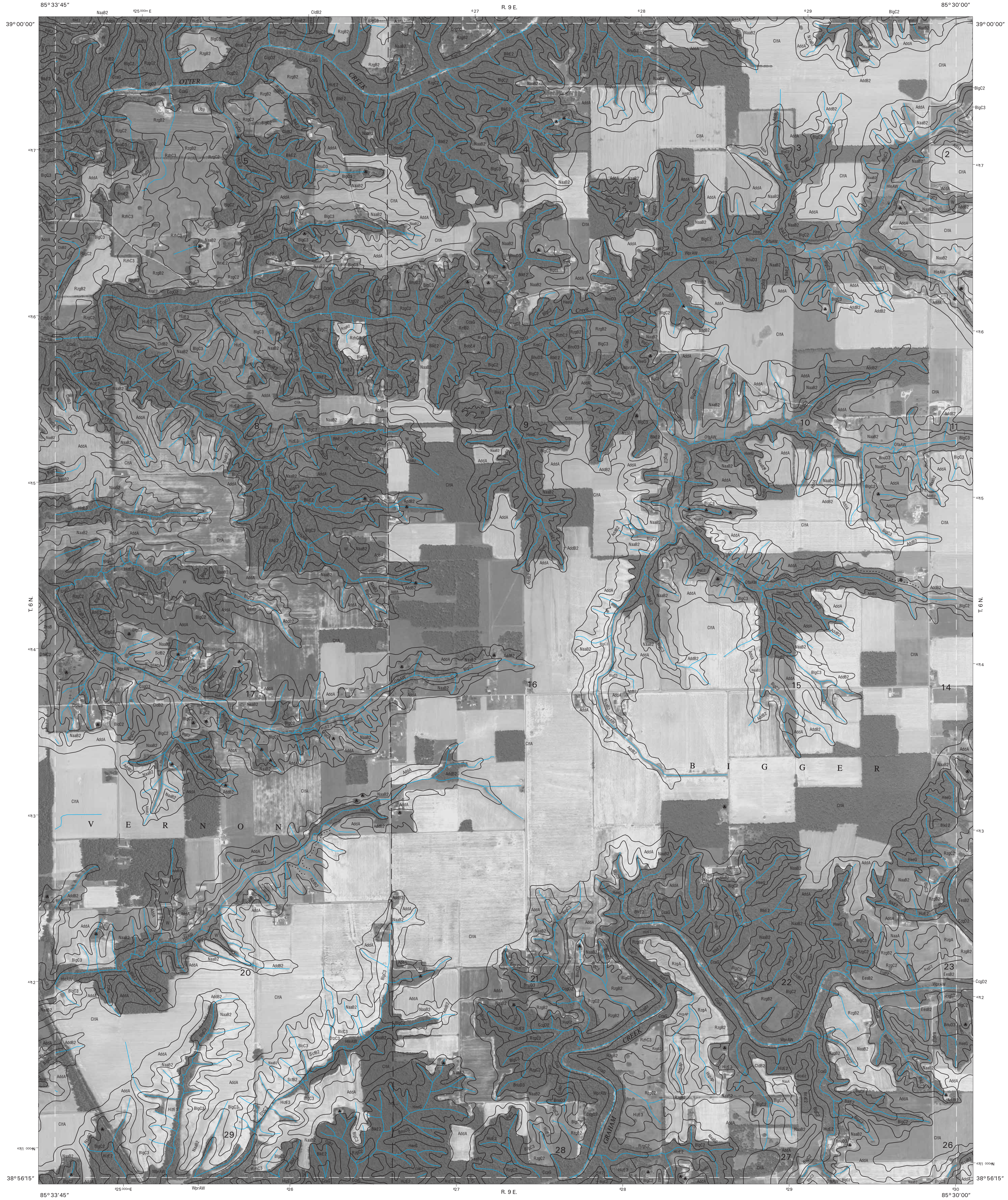
UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

JENNINGS COUNTY, INDIANA
VERNON NE QUADRANGLE
SHEET NUMBER 24 OF 36



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North American Datum of 1983 (NAD83). GRS - 80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
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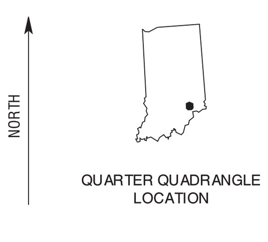
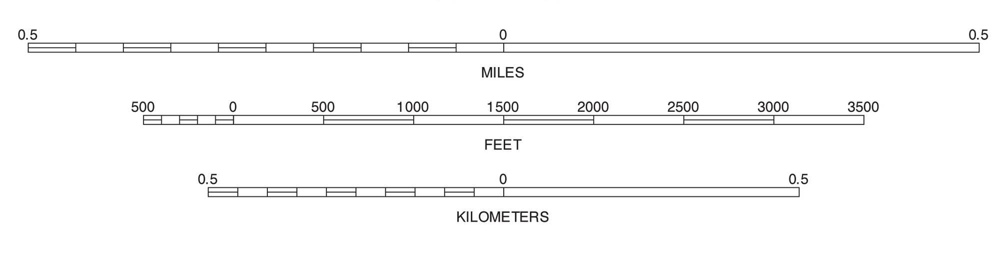


QUARTER QUADRANGLE LOCATION

SCALE 1:12000



17	18	19
23		25
29	30	31

17 BUTLERVILLE SW
18 BUTLERVILLE SE
19 HOLTON SW
23 VERNON NW
25 SAN JACINTO NW
29 VERNON SW
30 VERNON SE
31 SAN JACINTO SW

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VERNON NE, INDIANA
3.75 MINUTE SERIES
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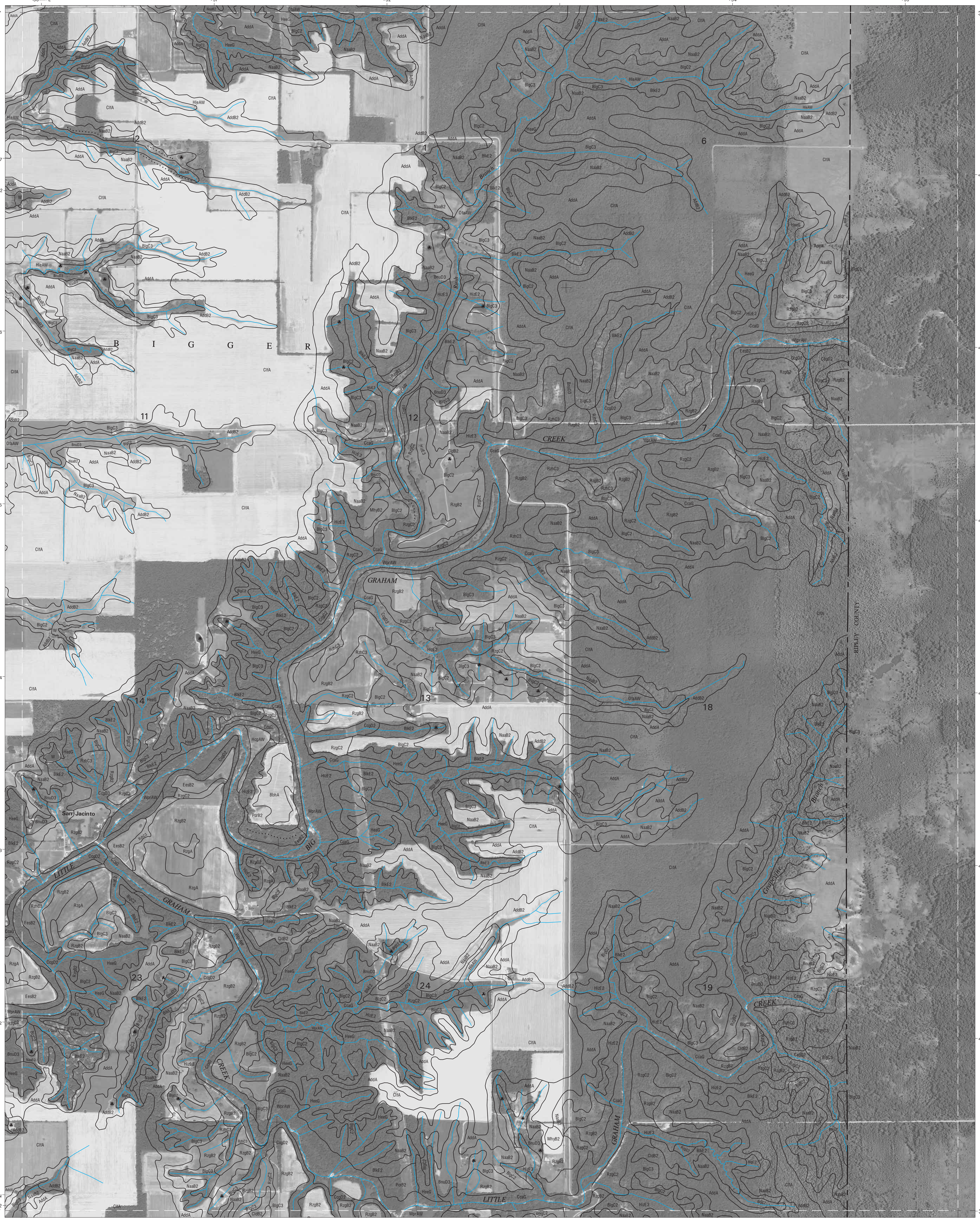

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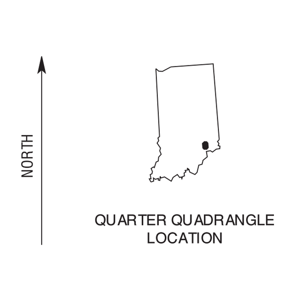
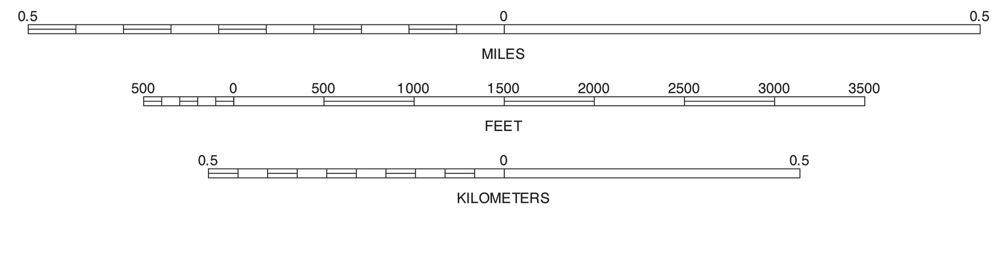
North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000



18	19	A	18 BUTLERVILLE SE 19 HOLTON SW A HOLTON SE
24		B	24 VERNON NE B SAN JACINTO NE
30	31	C	30 VERNON SE 31 SAN JACINTO SW C SAN JACINTO SE

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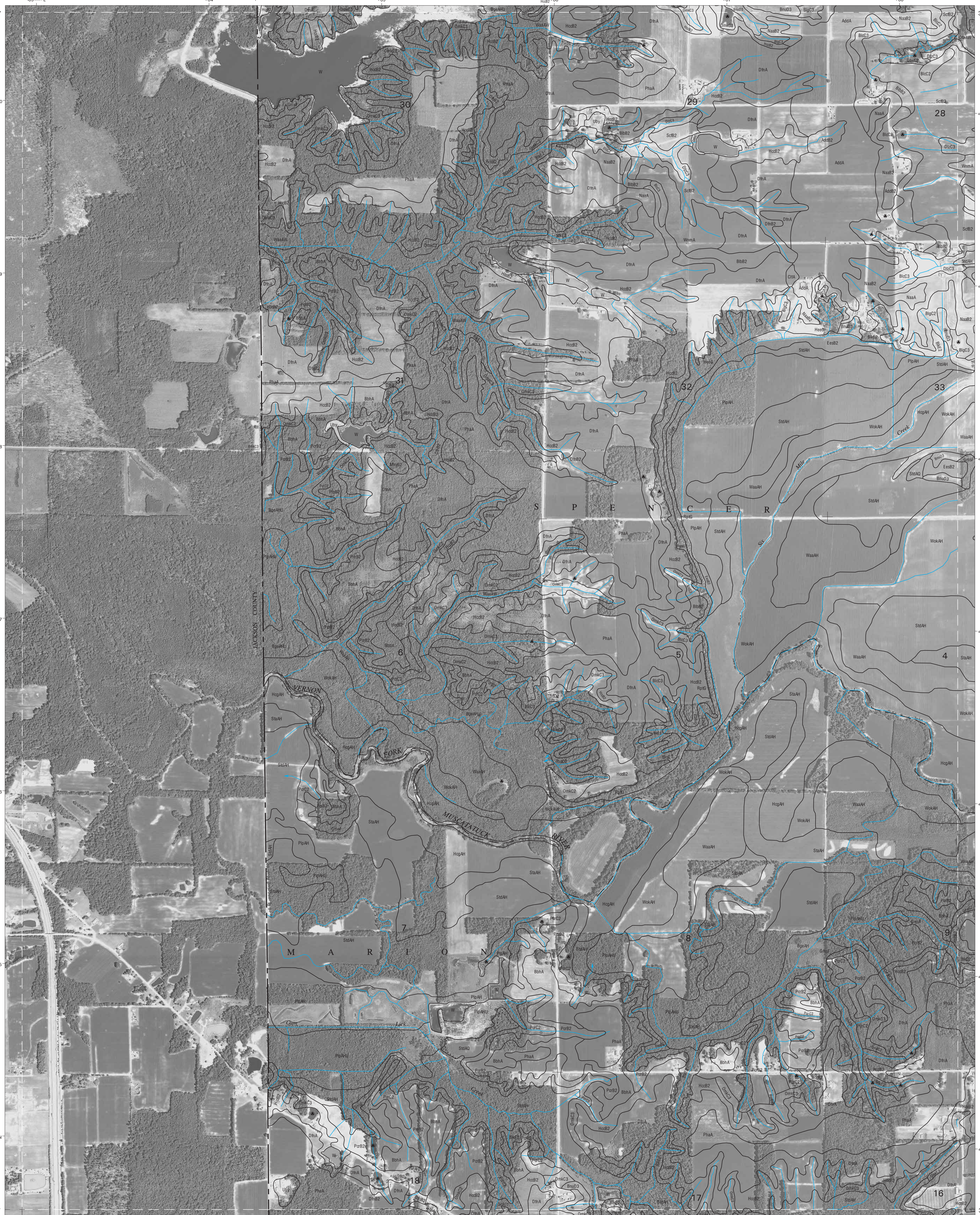
SAN JACINTO NW, INDIANA

3.75 MINUTE SERIES
SHEET NUMBER 25 OF 36

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

JENNINGS COUNTY, INDIANA
CHESTNUT RIDGE SE QUADRANGLE
SHEET NUMBER 26 OF 36



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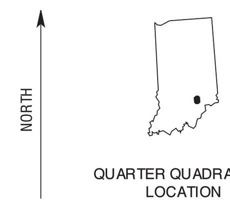
North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

A	20	21
B		27
C	32	33

A CHESTNUT RIDGE NW
20 CHESTNUT RIDGE NE
21 HAYDEN NW
B CHESTNUT RIDGE SW
27 HAYDEN SW
C CROTHERSVILLE NW
32 CROTHERSVILLE NE
33 DEPUTY NW

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CHESTNUT RIDGE SE, INDIANA
3.75 MINUTE SERIES
SHEET NUMBER 26 OF 36

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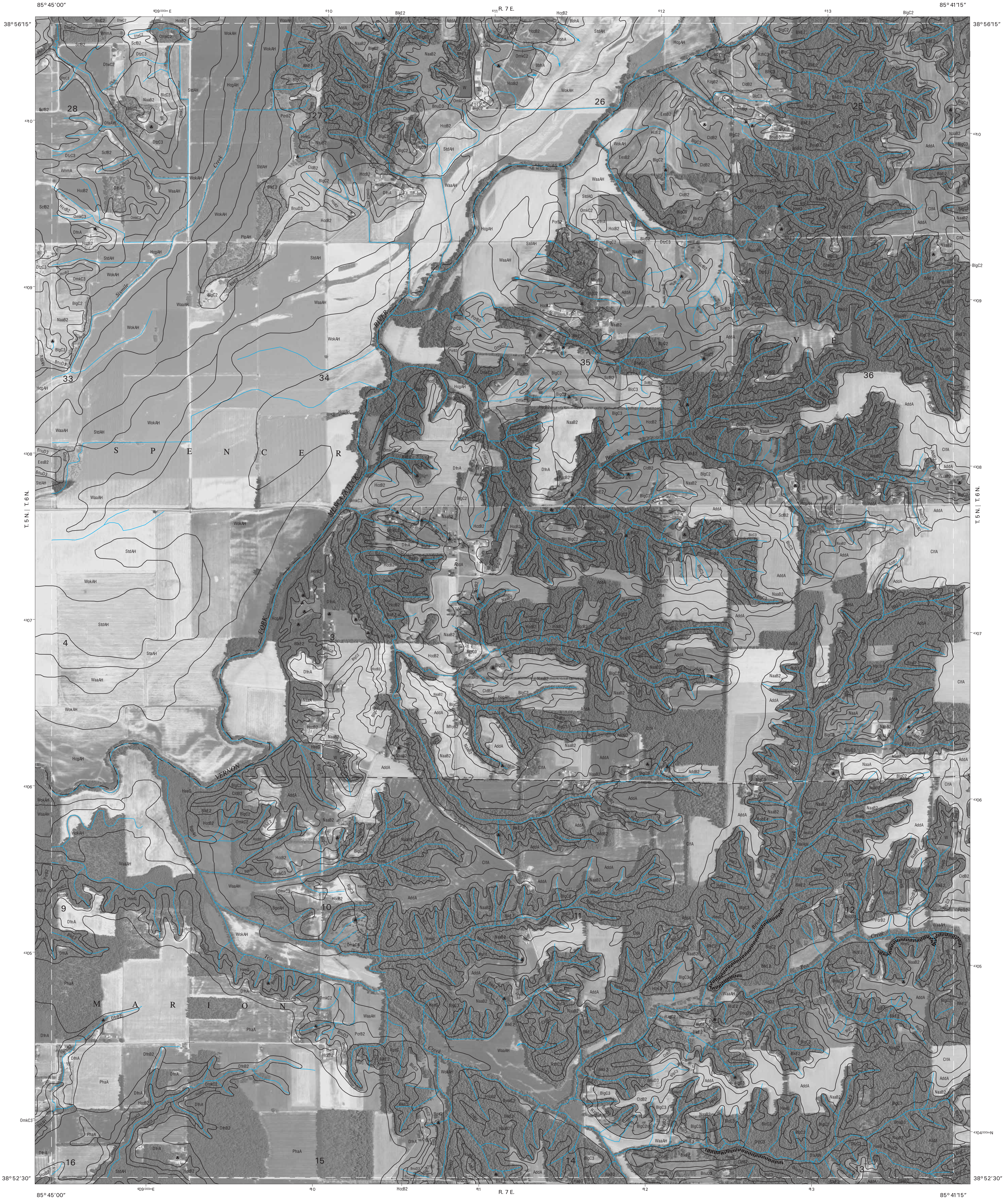

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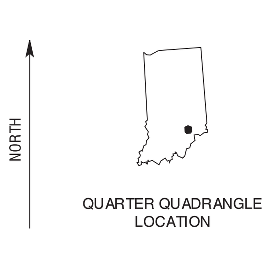

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

20	21	22
26		28
32	33	34

20 CHESTNUT RIDGE NE
21 HAYDEN NW
22 HAYDEN NE
26 CHESTNUT RIDGE SE
28 HAYDEN SE
32 CROTHERSVILLE NE
33 DEPUTY NW
34 DEPUTY NE

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HAYDEN SW, INDIANA
3.75 MINUTE SERIES
SHEET NUMBER 27 OF 36

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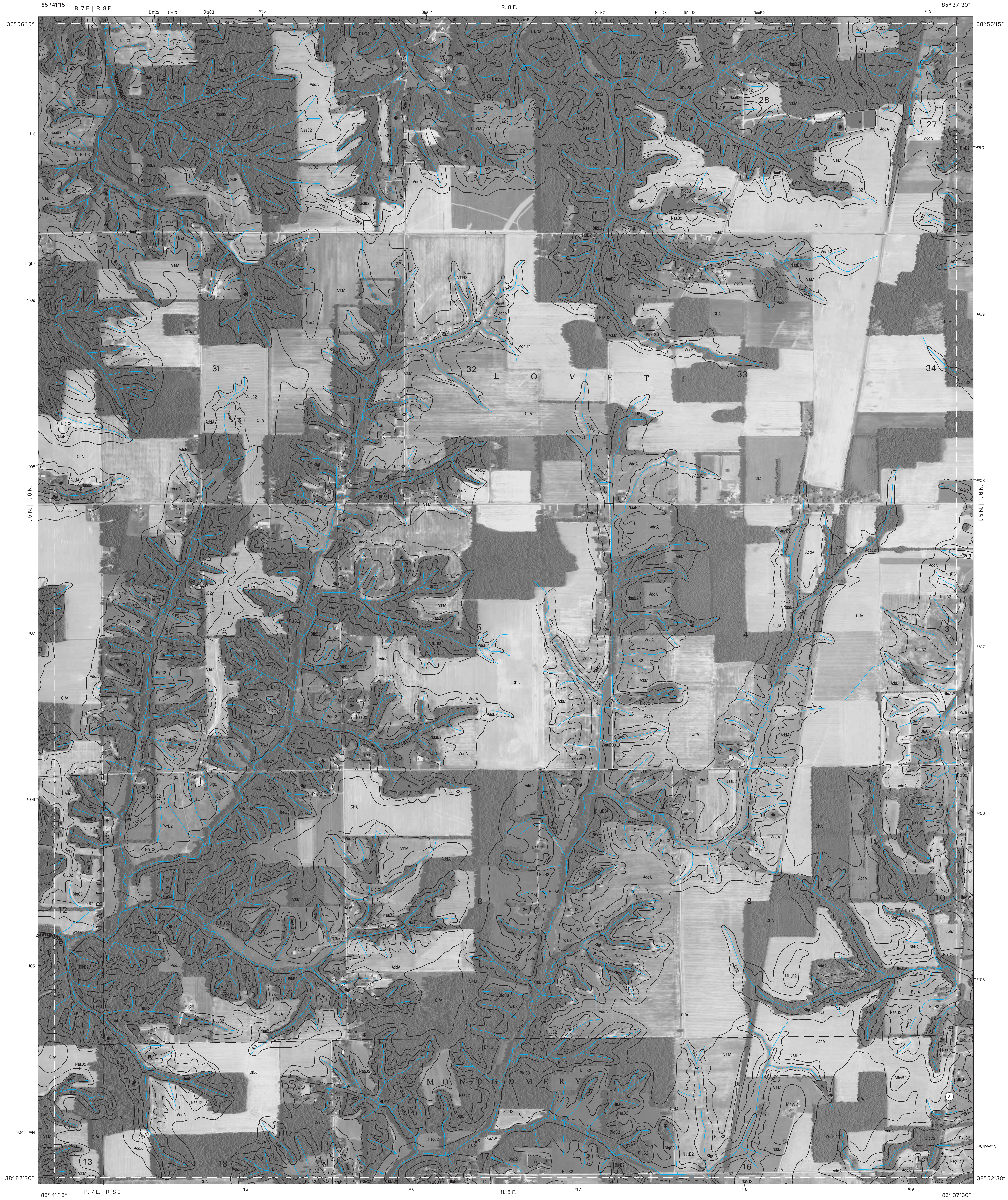
UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

JENNINGS COUNTY, INDIANA
HAYDEN SE QUADRANGLE
SHEET NUMBER 28 OF 36



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North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES: 0.5 — 0 — 0.5

FEET: 500 — 0 — 500 — 1000 — 1500 — 2000 — 2500 — 3000 — 3500

KILOMETERS: 0.5 — 0 — 0.5

21	22	23
27		29
33	34	35

21 HAYDEN NW
22 HAYDEN NE
23 VERNON NW
27 HAYDEN SW
29 VERNON SW
33 DEPUTY NW
34 DEPUTY NE
35 VOLGA NW

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HAYDEN SE, INDIANA
3.75 MINUTE SERIES
SHEET NUMBER 28 OF 36

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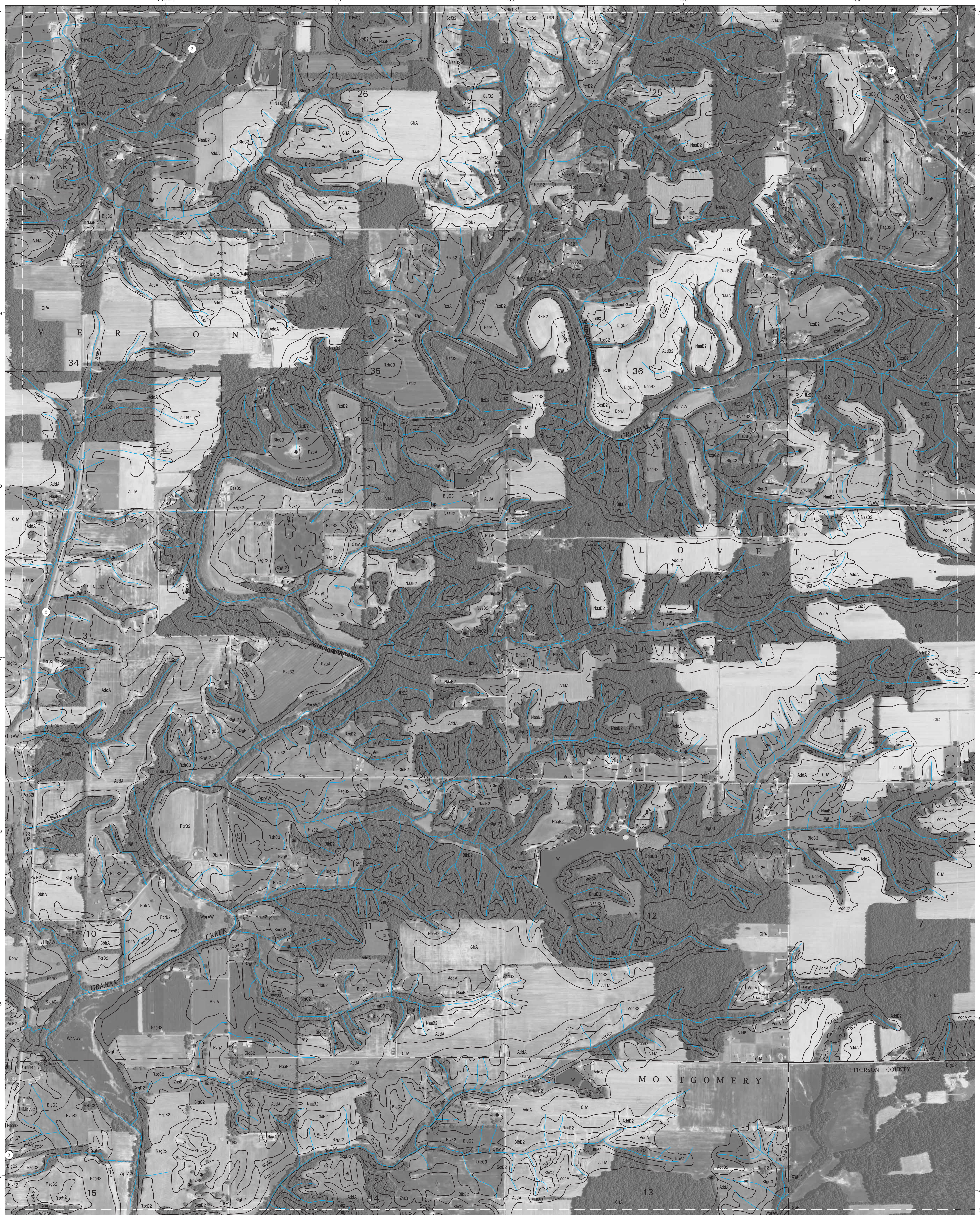
UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

JENNINGS COUNTY, INDIANA
VERNON SW QUADRANGLE
SHEET NUMBER 29 OF 36



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North American Datum of 1983 (NAD83). GRS - 80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

22	23	24
28		30
34	35	A

22 HAYDEN NE
23 VERNON NW
24 VERNON NE
28 HAYDEN SE
30 VERNON SE
34 DEPUTY NE
35 VOLGA NW
A VOLGA NE

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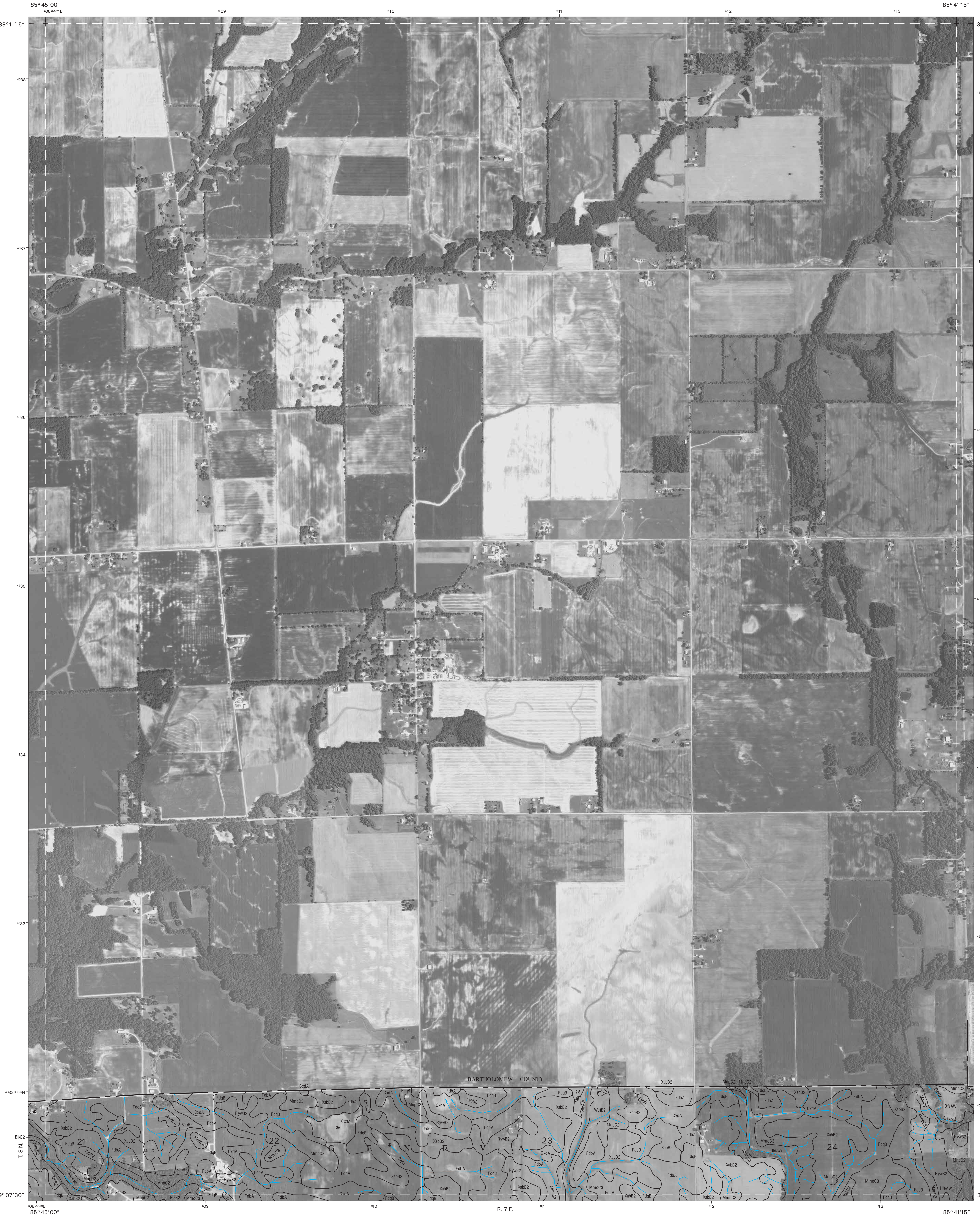
VERNON SW, INDIANA
3.75 MINUTE SERIES
SHEET NUMBER 29 OF 36

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



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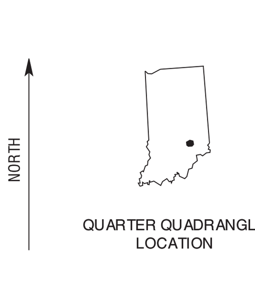
North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

A	B	C
2		4
8	9	10

A ELIZABETHTOWN NE
B GRAMMER NW
C GRAMMER NE
2 ELIZABETHTOWN SE
4 GRAMMER SE
8 AZALIA NE
9 NORTH VERNON NW
10 NORTH VERNON NE

INDEX TO ADJOINING 3.75 MAPS

GRAMMER SW, INDIANA

3.75 MINUTE SERIES
SHEET NUMBER 3 OF 36

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service.
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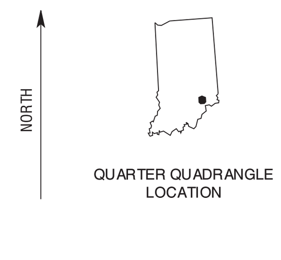
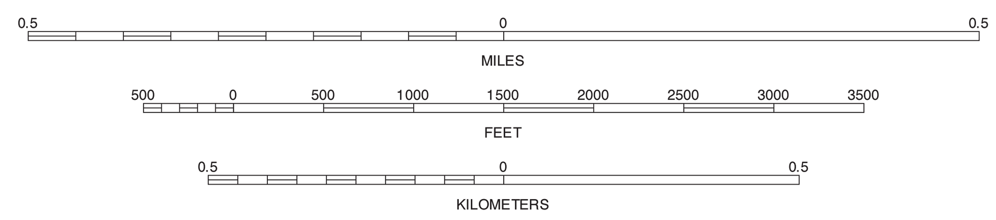
North American Datum of 1983 (NAD83). GRS - 80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



SCALE 1:12000



23	24	25
29		31
35	A	B

23 VERNON NW
24 VERNON NE
25 SAN JACINTO NW
29 VERNON SW
31 SAN JACINTO SW
35 VOLGA NW
A VOLGA NE
B CLIFTY FALLS NW

INDEX TO ADJOINING 3.75 MAPS

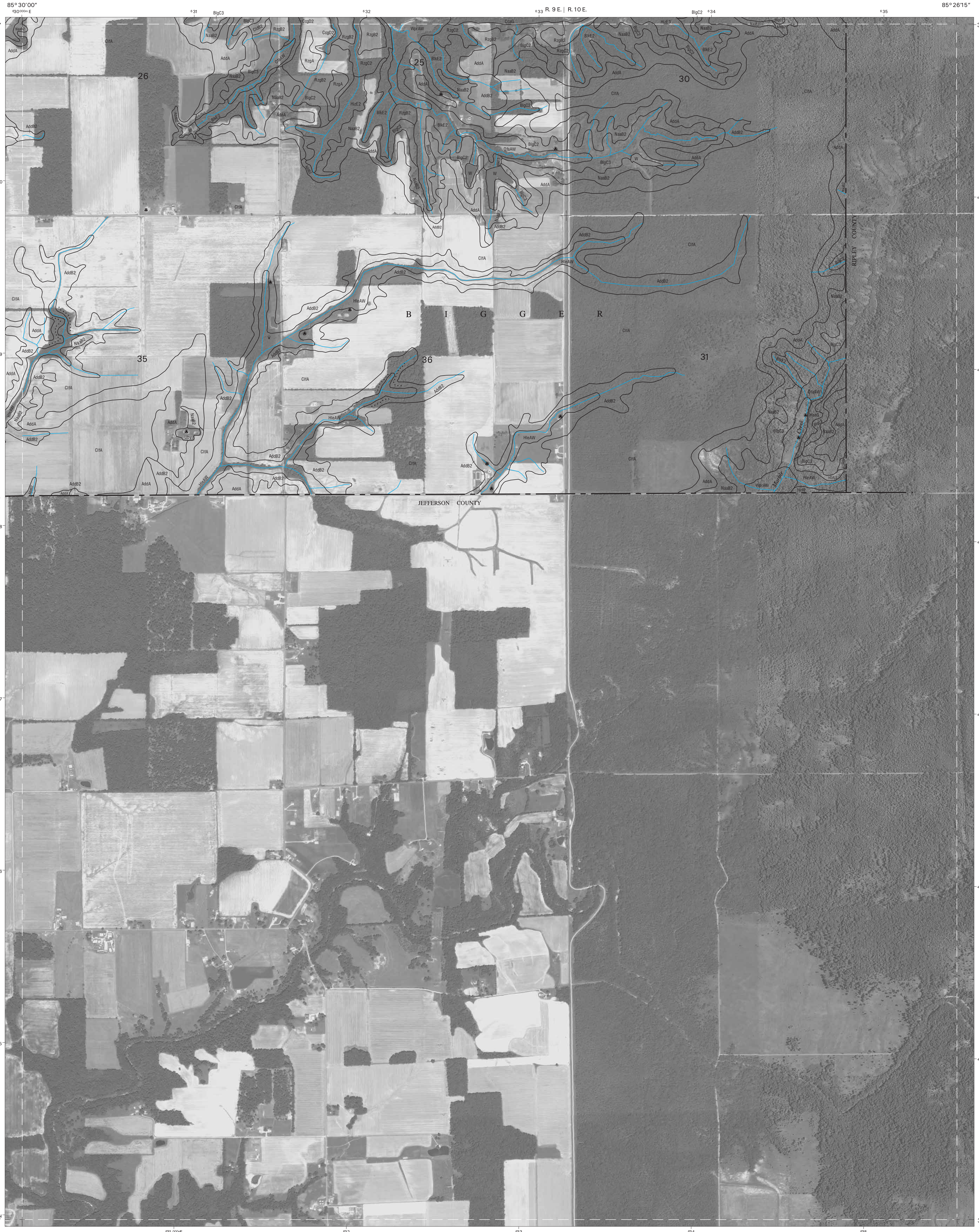
VERNON SE, INDIANA

3.75 MINUTE SERIES
SHEET NUMBER 30 OF 36

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

85° 30′00″ — 85° 26′15″

38° 56′15″



38° 52′30″

85° 30′00″ — 85° 26′15″

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North American Datum of 1983 (NAD83). GRS - 80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

24	25	A
30		B
C	D	E

24 VERNON NE
25 SAN JACINTO NW
A SAN JACINTO NE
30 VERNON SE
B SAN JACINTO SE
C VOLGA NE
D CLIFTY FALLS NW
E CLIFTY FALLS NE

INDEX TO ADJOINING 3.75 MAPS

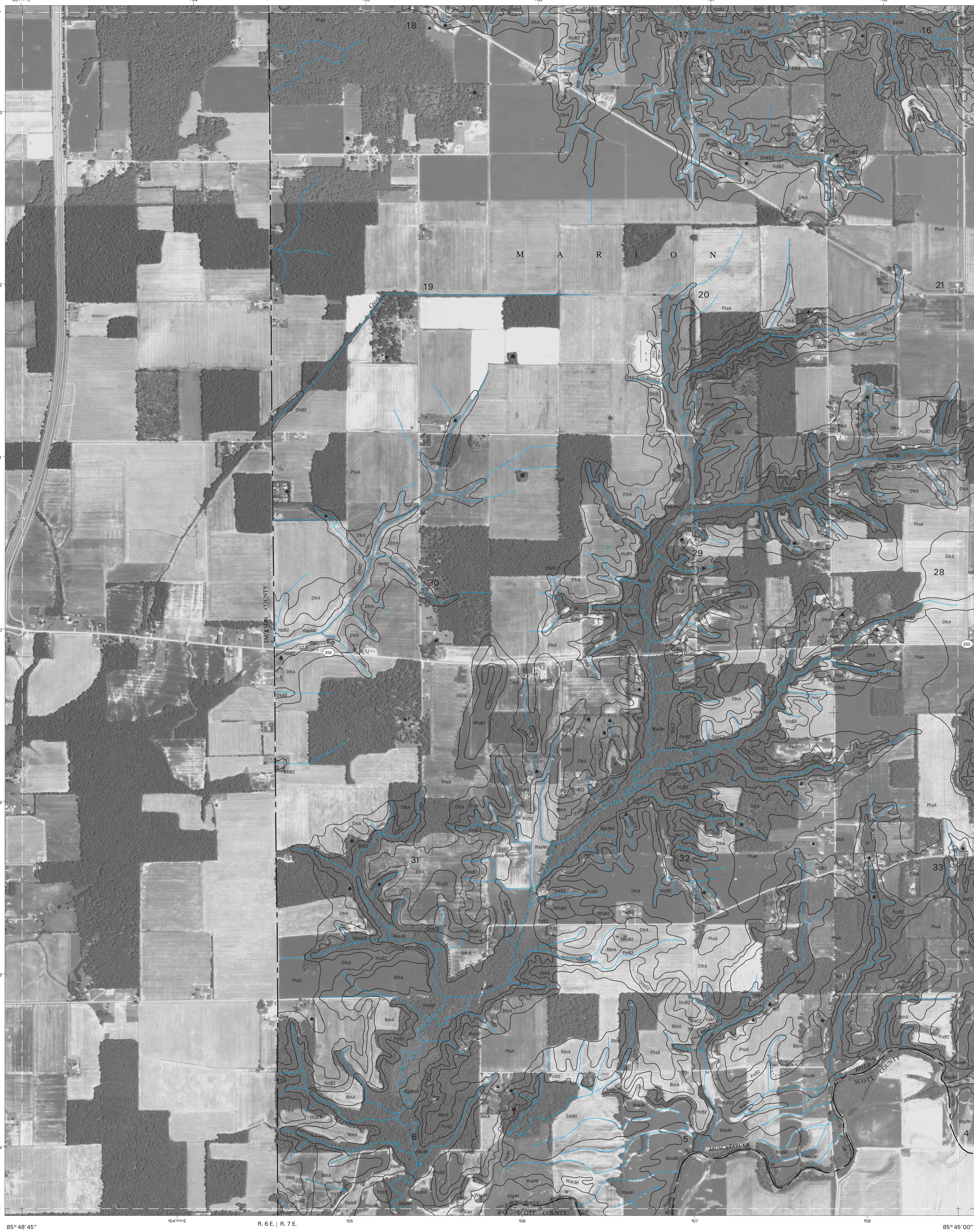
SAN JACINTO SW, INDIANA

3.75 MINUTE SERIES
SHEET NUMBER 31 OF 36

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

JENNINGS COUNTY, INDIANA
CROTHERSVILLE NE QUADRANGLE
SHEET NUMBER 32 OF 36



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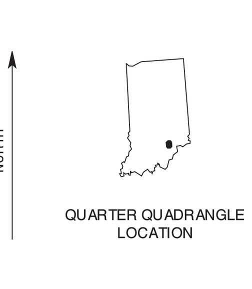
North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

A	26	27
B		33
C	36	D

- A CHESTNUT RIDGE SW
- 26 CHESTNUT RIDGE SE
- 27 HAYDEN SW
- B CROTHERSVILLE NW
- 33 DEPUTY NW
- C CROTHERSVILLE SW
- 36 CROTHERSVILLE SE
- D DEPUTY SW

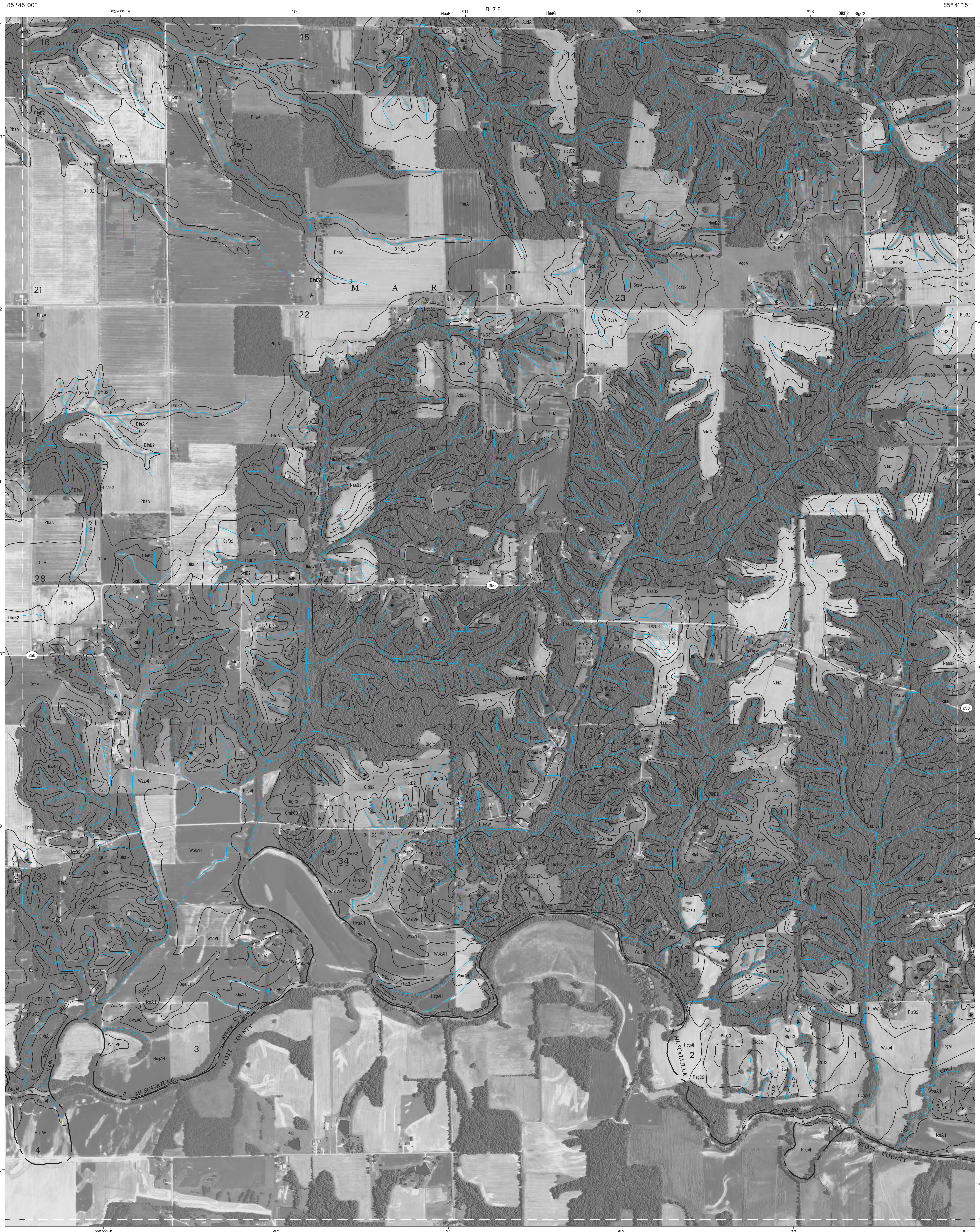
INDEX TO ADJOINING 3.75 MAPS

CROTHERSVILLE NE, INDIANA
3.75 MINUTE SERIES
SHEET NUMBER 32 OF 36

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

JENNINGS COUNTY, INDIANA
DEPUTY NW QUADRANGLE
SHEET NUMBER 33 OF 36



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North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES: 0.5 — 0 — 0.5

FEET: 500 — 0 — 500 — 1000 — 1500 — 2000 — 2500 — 3000 — 3500

KILOMETERS: 0.5 — 0 — 0.5

26	27	28
32		34
36	A	B

26 CHESTNUT RIDGE SE
27 HAYDEN SW
28 HAYDEN SE
32 CROTHERSVILLE NE
34 DEPUTY NE
36 CROTHERSVILLE SE
A DEPUTY SW
B DEPUTY SE

INDEX TO ADJOINING 3.75 MAPS

DEPUTY NW, INDIANA
3.75 MINUTE SERIES
SHEET NUMBER 33 OF 36

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

JENNINGS COUNTY, INDIANA
DEPUTY NE QUADRANGLE
SHEET NUMBER 34 OF 36

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service.
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North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

27	28	29
33		35
A	B	C

27 HAYDEN SW
28 HAYDEN SE
29 VERNON SW
33 DEPUTY NW
35 VOLGA NW
A DEPUTY SW
B DEPUTY SE
C VOLGA SW

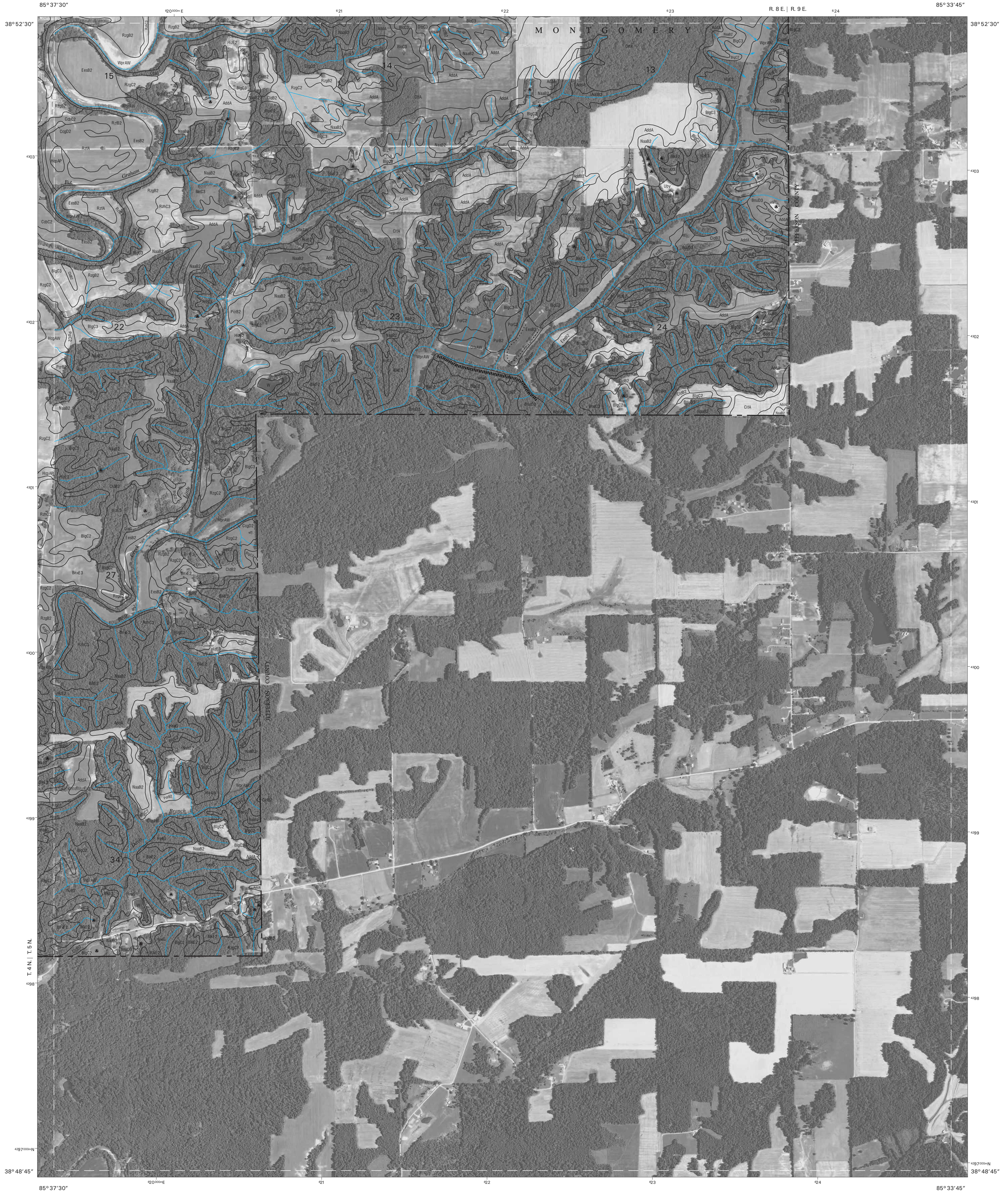
INDEX TO ADJOINING 3.75 MAPS

DEPUTY NE, INDIANA
3.75 MINUTE SERIES
SHEET NUMBER 34 OF 36

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

JENNINGS COUNTY, INDIANA
VOLGA NW QUADRANGLE
SHEET NUMBER 35 OF 36



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North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

28	29	30	28 HAYDEN SE
			29 VERNON SW
34		A	30 VERNON SE
			34 DEPUTY NE
B	C	D	A VOLGA NE
			B DEPUTY SE
			C VOLGA SW
			D VOLGA SE

INDEX TO ADJOINING 3.75 MAPS

VOLGA NW, INDIANA
3.75 MINUTE SERIES
SHEET NUMBER 35 OF 36

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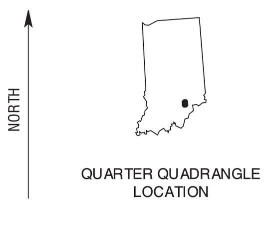
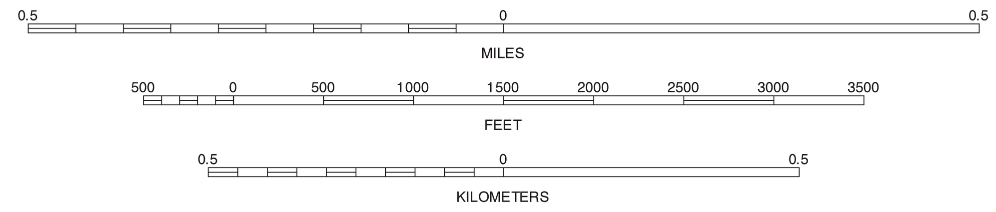
North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000



A	32	33
B		C
D	E	F

A CROTHERSVILLE NW
32 CROTHERSVILLE NE
33 DEPUTY NW
B CROTHERSVILLE SW
C DEPUTY SW
D SCOTTSBURG NW
E SCOTTSBURG NE
F BLOCHER NW

INDEX TO ADJOINING 3.75 MAPS

CROTHERSVILLE SE, INDIANA

3.75 MINUTE SERIES
SHEET NUMBER 36 OF 36

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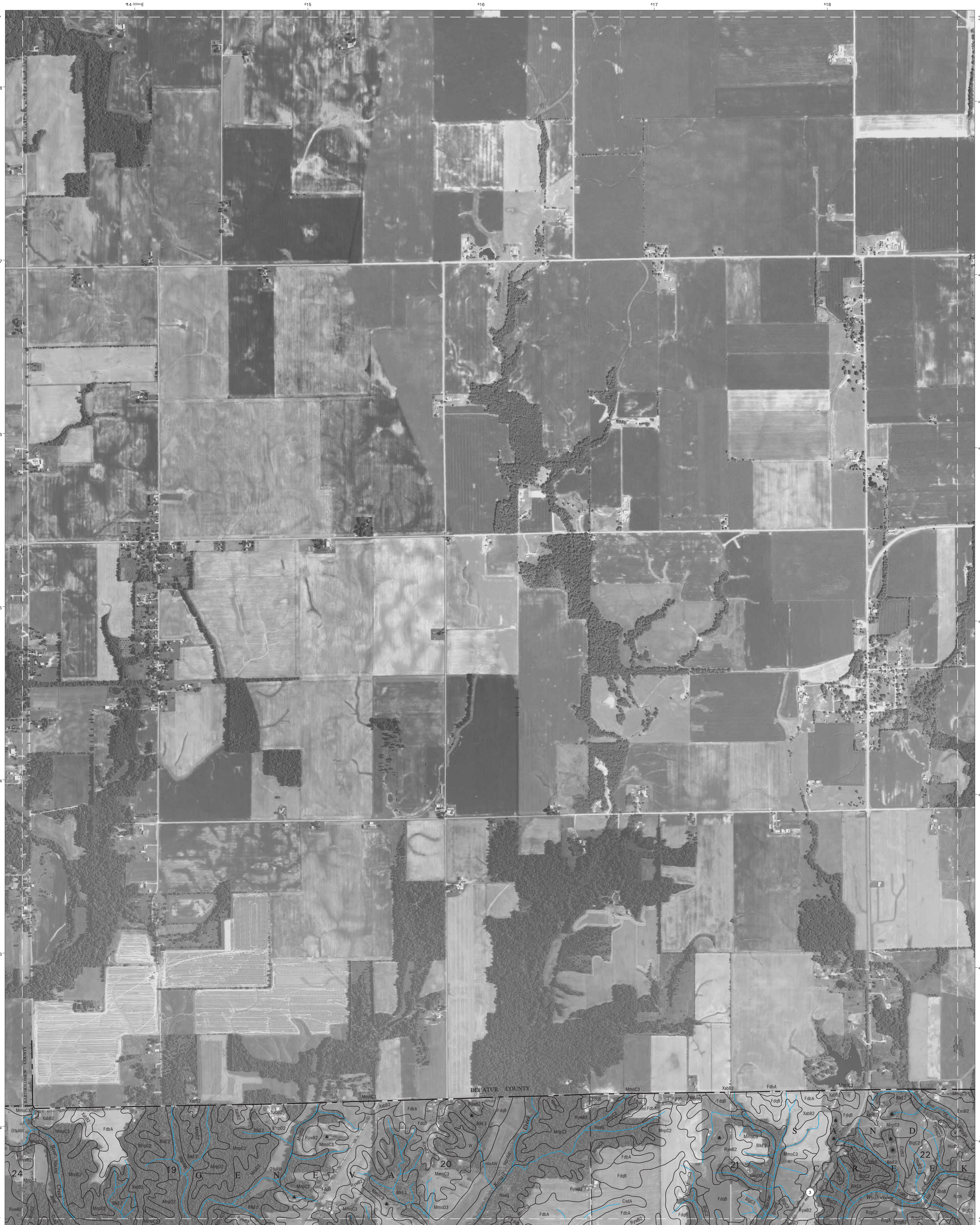
UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

JENNINGS COUNTY, INDIANA
GRAMMER SE QUADRANGLE
SHEET NUMBER 4 OF 36



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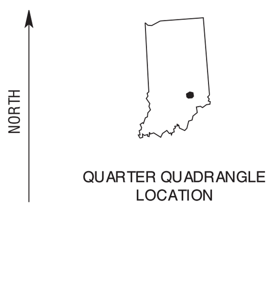
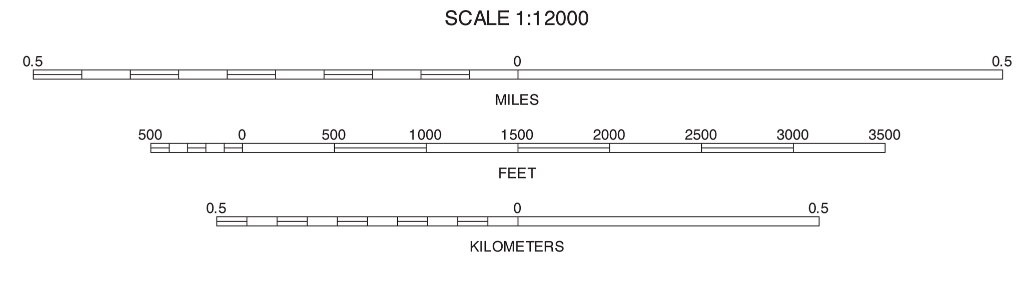
North American Datum of 1983 (NAD83). GRS - 80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000



A	B	C
3		5
9	10	11

A GRAMMER NW
B GRAMMER NE
C WESTPORT NW
3 GRAMMER SW
5 WESTPORT SW
9 NORTH VERNON NW
10 NORTH VERNON NE
11 BUTLERVILLE NW

INDEX TO ADJOINING 3.75 MAPS

GRAMMER SE, INDIANA

3.75 MINUTE SERIES
SHEET NUMBER 4 OF 36

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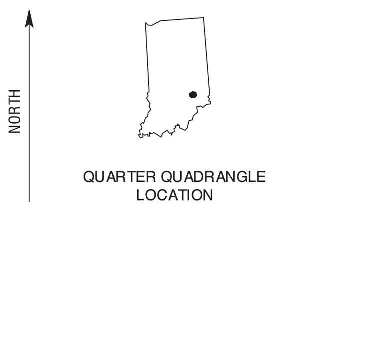


QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 | 0 | 0.5 MILES

500 | 0 | 500 | 1000 | 1500 | 2000 | 2500 | 3000 | 3500 FEET

0.5 | 0 | 0.5 KILOMETERS

A	B	C
4		6
10	11	12

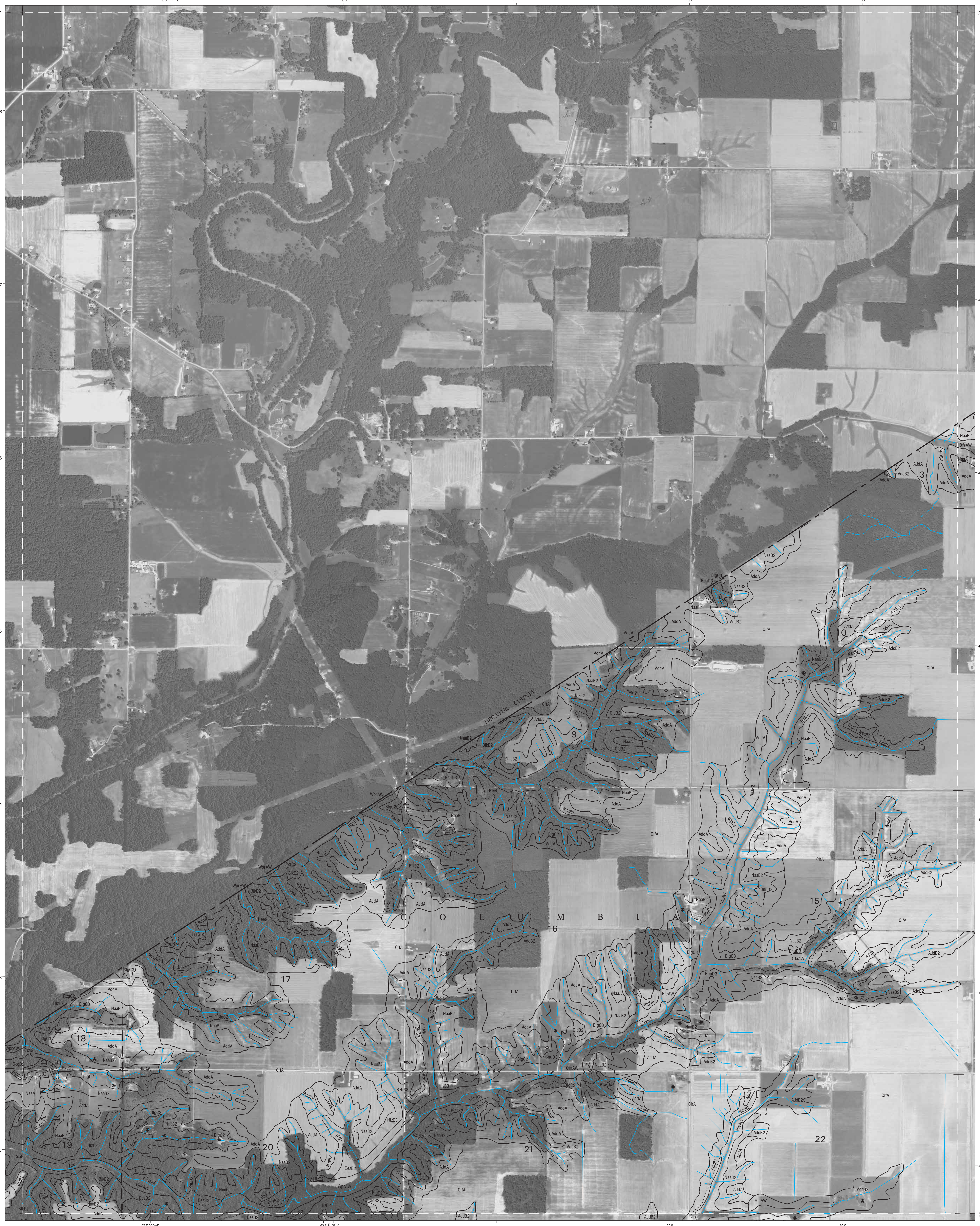
A GRAMMER NE
B WESTPORT NW
C WESTPORT NE
4 GRAMMER SE
6 WESTPORT SE
10 NORTH VERNON NE
11 BUTLERVILLE NW
12 BUTLERVILLE NE

INDEX TO ADJOINING 3.75 MAPS

WESTPORT SW, INDIANA

3.75 MINUTE SERIES
SHEET NUMBER 5 OF 36

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



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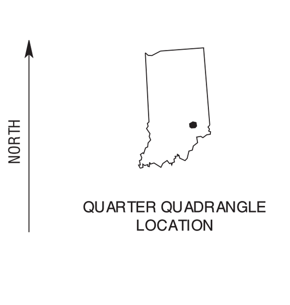
North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES: 0.5 0 0.5

FEET: 500 0 500 1000 1500 2000 2500 3000 3500

KILOMETERS: 0.5 0 0.5

A	B	1
5		7
11	12	13

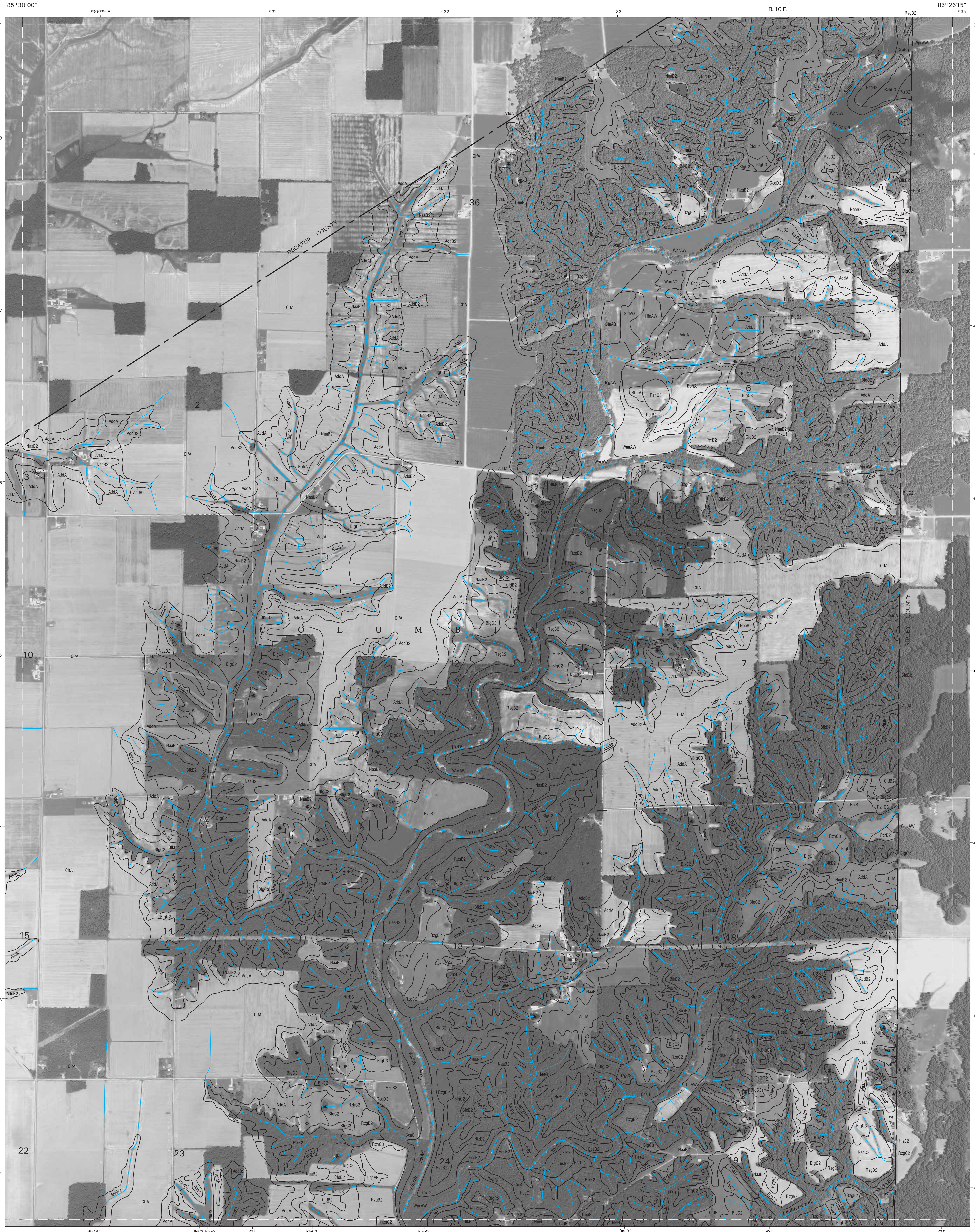
A WESTPORT NW
B WESTPORT NE
1 MILLHOUSEN NW
5 WESTPORT SW
7 MILLHOUSEN SW
11 BUTLERVILLE NW
12 BUTLERVILLE NE
13 HOLTON NW

INDEX TO ADJOINING 3.75 MAPS

WESTPORT SE, INDIANA

3.75 MINUTE SERIES
SHEET NUMBER 6 OF 36

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



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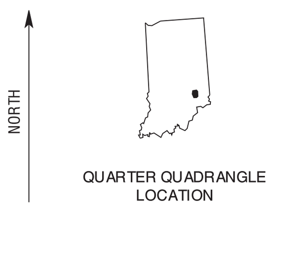
North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 — 0 — 0.5 MILES

500 — 0 — 500 — 1000 — 1500 — 2000 — 2500 — 3000 — 3500 FEET

0.5 — 0 — 0.5 KILOMETERS

A	1	B
6		C
12	13	D

A WESTPORT NE
1 MILLHOUSEN NW
B MILLHOUSEN NE
6 WESTPORT SE
C MILLHOUSEN SE
12 BUTLERVILLE NE
13 HOLTON NW
D HOLTON NE

INDEX TO ADJOINING 3.75 MAPS

MILLHOUSEN SW, INDIANA

3.75 MINUTE SERIES
SHEET NUMBER 7 OF 36

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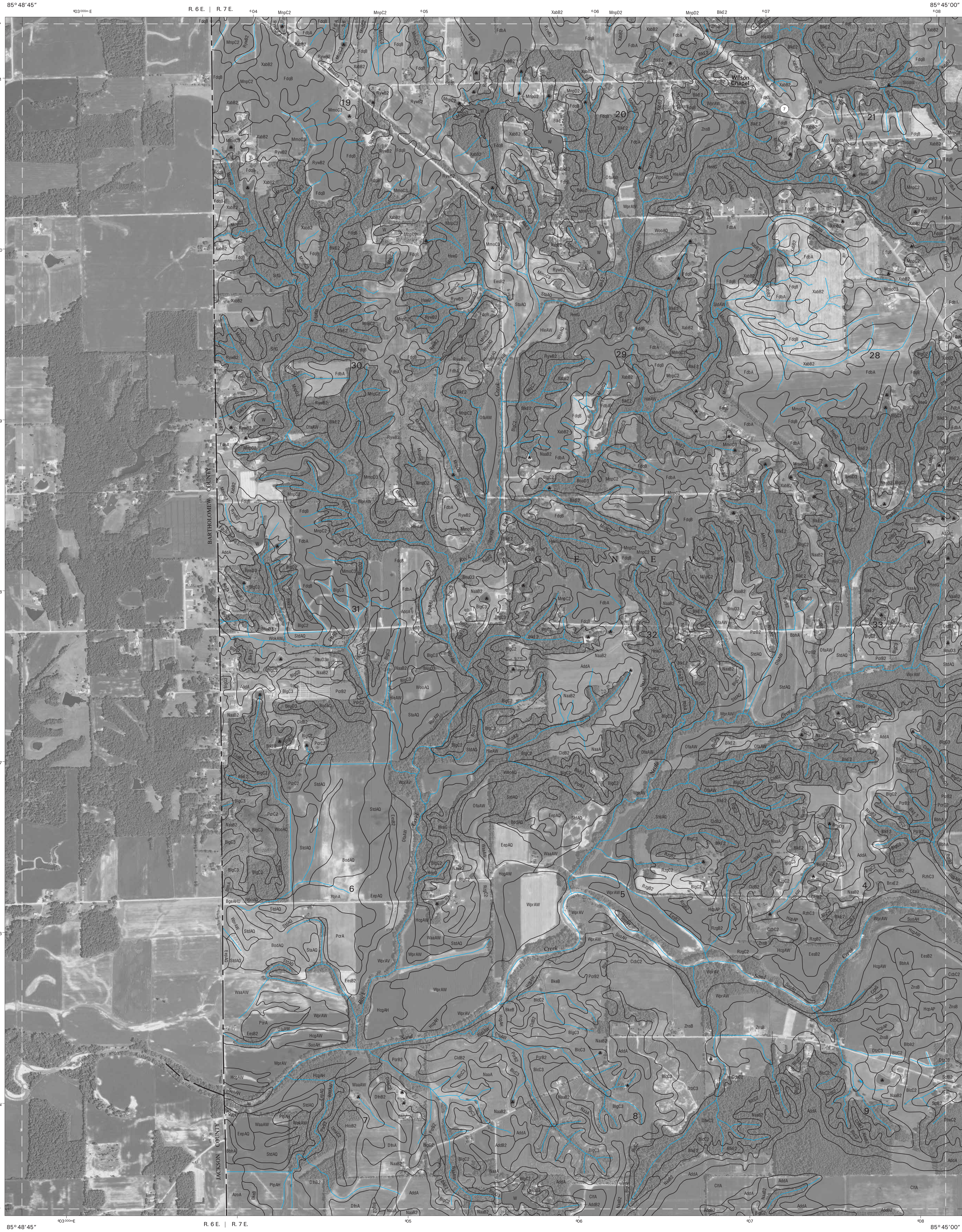
UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

JENNINGS COUNTY, INDIANA
AZALIA NE QUADRANGLE
SHEET NUMBER 8 OF 36



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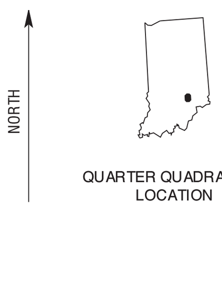
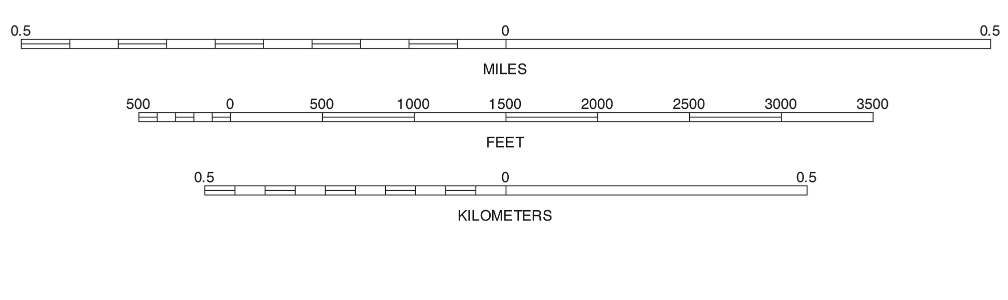
North American Datum of 1983 (NAD83). GRS - 80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION



A	2	3	
B		9	
C	14	15	

A ELIZABETHTOWN SW
2 ELIZABETHTOWN SE
3 GRAMMER SW
B AZALIA NW
9 NORTH VERNON NW
C AZALIA SW
14 AZALIA SE
15 NORTH VERNON SW

INDEX TO ADJOINING 3.75 MAPS

AZALIA NE, INDIANA

3.75 MINUTE SERIES
SHEET NUMBER 8 OF 36

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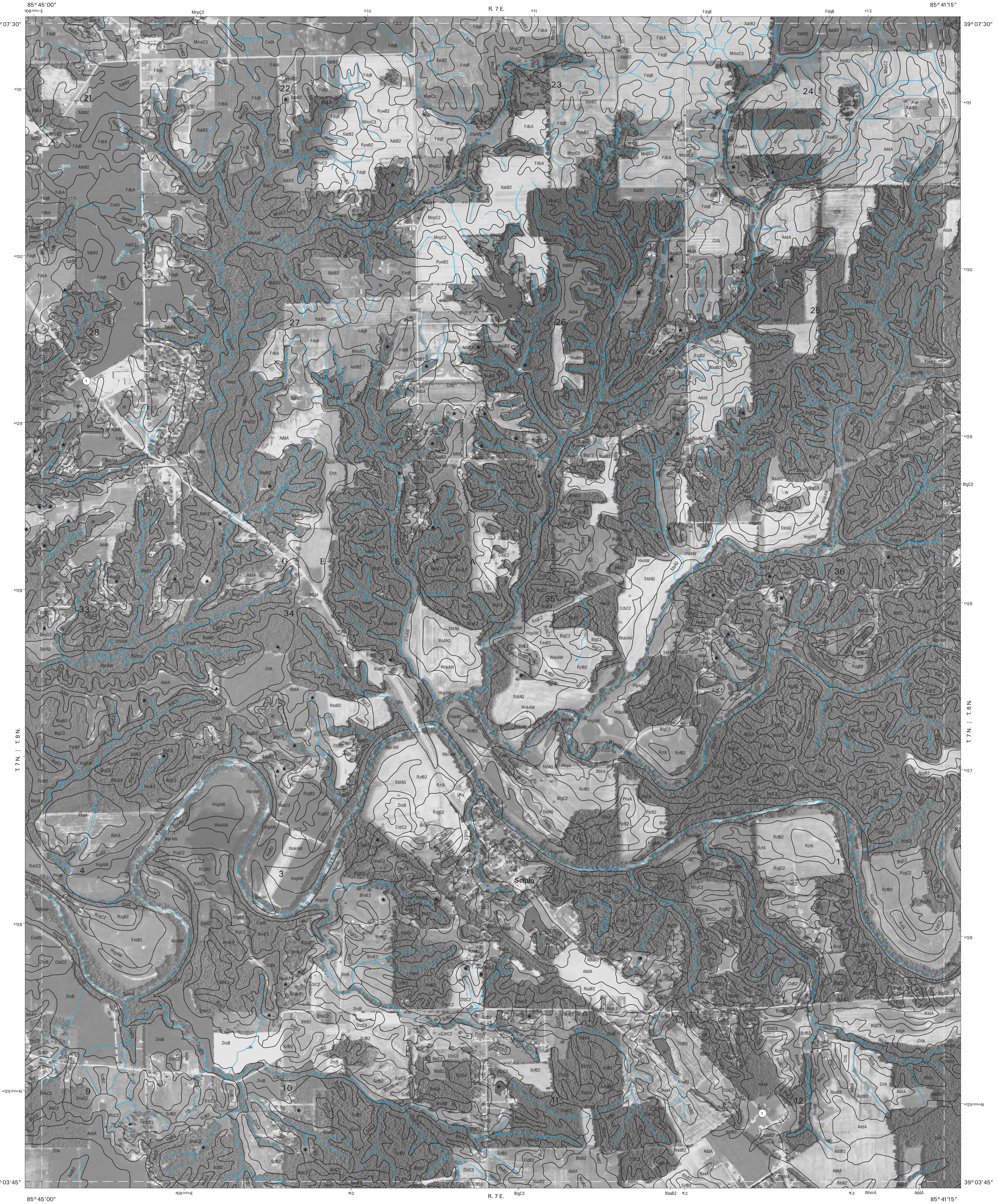
UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

JENNINGS COUNTY, INDIANA
NORTH VERNON NW QUADRANGLE
SHEET NUMBER 9 OF 36



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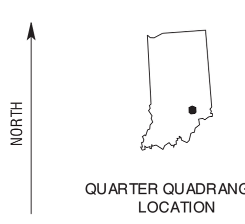
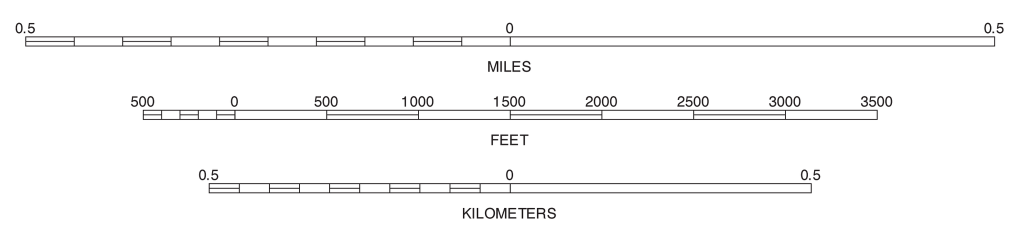
North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000



2	3	4
8		10
14	15	16

2 ELIZABETHTOWN SE
3 GRAMMER SW
4 GRAMMER SE
8 AZALIA NE
10 NORTH VERNON NE
14 AZALIA SE
15 NORTH VERNON SW
16 NORTH VERNON SE

INDEX TO ADJOINING 3.75 MAPS

NORTH VERNON NW, INDIANA
3.75 MINUTE SERIES
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Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.